

DEPARTMENT OF
HEALTH, EDUCATION & WELFARE
OCT 20 1959
LIBRARY

NOTICE

On July 1, 1901, the entire stock of the Henry Barnard publications, including plates, sheets, and books, was transferred to me. The volumes of the Journal of Education that have been out of print have been got ready, and I can furnish the entire 32 volumes. I can also fill orders for nearly all the books he ever advertised. Correspondence is solicited.

C. W. BARDEEN, Syracuse, N. Y.



Chauncy Rose

THE

✓
AMERICAN

//
Journal of Education.

EDITED BY

HENRY BARNARD, LL. D.



VOLUME XXXII.

HARTFORD:

PUBLISHED BY HENRY BARNARD.

1882.

PREFACE

This is the final volume of Barnard's American Journal of Education. Dr. Barnard had prepared parts of several volumes, numbering as high as XXXVII, and when this material came into my hands I at first planned to issue volumes as far as XXXIV, condensing the new material into three volumes instead of six, and discarding many of the reprinted articles which he had found place for. On bringing the material together, however, I found that all the articles which had not hitherto appeared in the Journal in some form could be printed in a single volume, and this is what I have done. This volume contains everything I have been able to find prepared by Dr. Barnard for the Journal which had not already appeared in the first 31 volumes, including all that was new in his Report as Commissioner of Education, 1867-8.

C. W. BARDEEN

Syracuse, N. Y., Dec. 4, 1902

CONTENTS OF VOL. XXXII

PART I

EDWIN A. ABBOTT, Hints on Home Training and Teaching..1	
(For table of contents see page 3)	
EDWARD THRING, Theory and Practice of Teaching.....123	
FREDERICK W. FARRAR, General Aims of the Teacher..129	
ROBERT H. QUICK, Class Teaching.....145	
University Recognition of Education.....155	
Female Education in Pennsylvania.....161	
THOMAS CUSHING, Teachers and Schools Sixty Years Ago.176	
Boston Latin School.....188	
Chauncy Hall School, Boston.....190	
New Building for Hartford Public High School.....192	
WILLIAM EWART GLADSTONE.....205	
Foreign Education, Home Travel.....207	
JOHN LOCKE, Conduct of the Understanding.....209	
Index.....287	

PART II

COLLEGES OF AGRICULTURE AND THE MECHANIC ARTS

1. NATIONAL LEGISLATION.....275*	
Act of Congress donating Lands to the States, July 2, 1862.....275*	
Act of Congress in addition to the same, July 23, 1866..276*	
Act of Congress in addition to the same, Feb. 28, 1867..276*	
2. LEGISLATION OF THE SEVERAL STATES ESTABLISHING COLLEGES OF AGRICULTURE AND THE MECHANIC ARTS, on the basis of National Land Grant.....277*	
California.....277*	
Connecticut.....283*	
Delaware.....285*	
Illinois.....287*	
Indiana.....294	
Iowa.....296	
Kansas.....303	

Kentucky.....	306
Maine.....	310
Maryland.....	314
Massachusetts.....	315
Michigan.....	321
Minnesota.....	324
New Hampshire.....	327
New Jersey.....	329
New York.....	331
Ohio.....	336
Pennsylvania.....	339
Rhode Island.....	341
Vermont.....	343
West Virginia.....	349
Wisconsin.....	353

3. COLLEGES, SCHOOLS AND DEPARTMENTS OF SCIENCE
applied to the Industrial Arts in the different States

Connecticut, Sheffield Scientific School of Yale Col- lege.....	357
Massachusetts, Institute of Technology.....	375
Agricultural College.....	389
New York, Cornell University.....	393
Pennsylvania, Agricultural College.....	399
Michigan, Agricultural College.....	407
Maryland, Agricultural College.....	412
New Hampshire, College of Agriculture.....	417
Vermont, Agricultural College.....	419
Iowa, Agricultural College.....	422
Wisconsin, College of Arts.....	423
West Virginia, Agricultural College.....	426
New Jersey, Agricultural College.....	427
Kentucky, Agricultural College.....	431
California, Agricultural College.....	437
Maine, College of Agriculture.....	439
Rhode Island, Scientific Department of Brown Uni- versity.....	440
Kansas, Agricultural College.....	441
Illinois, Industrial University.....	445

PART III

SCIENTIFIC AND INDUSTRIAL EDUCATION IN EUROPE.....	451
France.....	453
Austria.....	465
Prussia.....	481
Great Britain.....	497

PART IV

JAMES DAVIE BUTLER, Commonplace Books.....	513
Rose Polytechnic Institute and its Founder.....	545
Framingham State Normal School.....	577
HENRY BARNARD, Connecticut Report, 1850.....	582
Professional Training of Teachers in Ohio.....	589
State Normal Schools, and other Institutions for the Professional Training of Teachers.....	601
A Chapter in the History of Normal Schools.....	603
Educational Convention in Plymouth County.....	603
Memorial to the Legislature of Massachusetts.....	609
Teacher's Conferences and other modes of Professional Improvement.....	620
Topics for Discussion.....	629
Educational Conventions and Associations in the United States.....	631
Rhode Island Institute of Instruction.....	632
Educational Associations.....	635
National Educational Societies.....	637
ALPHONS LEROY, Public Instruction in Holland.....	641
Professional Training of Teachers in Pennsylvania.....	701
FREDERICK W. FARRAR, School Decoration in Great Towns, Art in Schools.....	707
Girls' High School, Boston.....	716
ELIZABETH PEABODY, My Experience as a Teacher.....	721
MRS. MARY PEABODY MANN, Reminiscences of School Life and Teaching.....	743

PART V

EDUCATION IN THE UNITED STATES

Missions and Schools for the Indians.....	753
HENRY BARNARD, Education and Educational Institu- tions.....	769
I. Educational Development in the Colonial Period....	769

II. Revolutionary and Transitional Period.....	783
III. State and National Action.....	787
Educational Institutions about 1800.....	787
Progress of Common or Elementary Schools.	791
IV. Progressive Development of Schools and other In- stitutions of Public Instruction.....	819
1. Elementary Instruction.....	820
2. Secondary Instruction.....	872
3. Colleges, or Superior Instruction.....	882
4. Professional and Special Education.....	898
5. Supplementary Instruction.....	931
6. Societies for the Advancement of Science, Educa- tion, and Literature.....	938
7. Educational Periodicals and Reports.....	942
8. School Books and School Apparatus.....	961
9. School Architecture.....	973
The University of Cambridge.....	977
HENRY BARNARD, The Development of Religious Insti- tutions in the United States.....	993
I. Growth and Progress.....	995
II. History and Progress of the Different Denomina- tions.....	999
Roman Catholics.....	999
Baptists.....	1004
Presbyterians.....	1013
Methodists.....	1021
Protestant Episcopal Church of the United States..	1038
Evangelical Lutheran Church.....	1041
Society of Friends, or Quakers.....	1045
Unitas Fratrum, or Moravians.....	1053
Unitarians.....	1055
Universalists.....	1057
New Jerusalem Church, New Church, or Sweden- borgian.....	1059
Mormons, or Church of Jesus Christ of Latter Day Saints.....	1061
Israelites or Jews.....	1063
Spiritualists.....	1065
Free Thinkers, or Atheists, Deists, Rationalists, etc.	1066
Church Architecture, Past and Present in the United States.....	1070

HINTS
ON
HOME TRAINING AND TEACHING

BY
EDWIN A. ABBOTT, D.D.,

Headmaster of the City of London School.

REPRINTED BY PERMISSION OF THE AUTHOR

CONTENTS

	PAGE
Memoir of Author.....	5
Preface to London Edition	7

PART I.—MORAL TRAINING

1. Habits in General.....	9
2. The Formation of Habits.....	9
3. Habits formed by Imitation.....	10
4. The Habit of Attention.....	11
5. Observation.....	12
6. Memory.....	13
7. Exactness.....	14
8. Imagination	15
9. Order.....	16
10. Duty	16
11. The Appetites.....	16
12. The Will.....	17
13. Obedience.....	18
14. Kindness and Helpfulness.....	21
15. Truthfulness.....	21
16. Simplicity.....	23
17. Reverence.....	25
18. Punishments.....	26

PART II—MENTAL TRAINING.

19. Regularity.....	28
20. Exactness.....	28
21. Adaptation and Variation.....	29
22. Transition from Play to Work.....	30
23. Introduction and Guidance.....	31
24. Reading.....	32

	PAGE
25. Questioning on Reading.....	36
26. Writing.....	37
27. Drilling, Singing, Drawing.....	38
28. Spelling.....	38
29. Punctuation.....	40
30. Numbers.....	40
31. Figures.....	42
32. Tables.....	42
33. First Four Rules Applied.....	45
Numbers Above a Hundred.....	45
34. The Transition to Fractions.....	51
35. Fractions.....	53
36. Fractional Experiments.....	54
37. Addition of Fractions.....	56
38. The rule of a Fraction.....	58
39. Multiplication of Fractions.....	59
Division of Fractions.....	59
40. Modern Rule of Three.....	61
Method of Unity.....	61
41. Decimal Fractions.....	63
42. General Cautions.....	64
43. English Composition	65
A Natural Style.....	65
44. Conversation and Composition.....	65
45. Use of Letters in Composition.....	66
46. Use of Tales in Composition.....	66
47. Typical Sentences.....	67
48. English Grammar.....	68
49. Irregularities of Idiom.....	74
50. Memory.....	75
51. Repetition of Poetry.....	78
52. French.....	82
53. Latin.....	84
54. Geography.....	92
55. History.....	96
56. Geometry.....	103

PART III.—RELIGIOUS INSTRUCTION.

57. Religious Instruction.....	113
58. Home Influence on the Child at School.....	120

HINTS ON HOME TRAINING AND TEACHING.

BY EDWARD A. ABBOTT, D.D.

Head Master of City of London School.

MEMOIR.*

The Rev. Edward A. Abbott, D.D., author of *Hints on Home Training and Teaching*, for the use of parents, governesses, and teachers, was born in London, in 1838, and having received his preparatory course in King's College School, was educated at St. John's College, Cambridge, attaining his degree of Bachelor of Arts, with the rank of seventh Senior Optime, and first class in classics, in 1861, and becoming Fellow in the same year. From 1862 to 1865 he was assistant master in King Edward's school, Birmingham, where he displayed such fine scholarship and efficient management as to secure the appointment of Head Master of the City of London School. The City of London School, resting on an ancient foundation, the bequest of John Carpenter in 1442, to the City of London, for the education of four boys, has been elevated into great prominence, under Dr. Abbott's mastership and twenty assistants, by recent endowments in scholarships and exhibitions by city merchants and bankers, and now educates 620 boys, all day scholars, between the ages of seven and fifteen years, who are admitted on the nomination of a member of the corporation, and the payment of £9 per annum, with the exception of those who obtain some of the numerous scholarships and exhibitions, viz.:

Eight Carpenter Exhibitions of 11*l.* per ann. at School, and 25*l.* at Oxford, Cambridge, or London. One Tegg Exhibition of 22*l.* per ann., tenable at Oxford, Cambridge, or London. One *Times* Exhibition, at Oxford or Cambridge, of 30*l.* per ann. Four Beaufoy Exhibitions of 50*l.* per ann. each, tenable at Cambridge. One David Salomons Exhibition, of 50*l.* per ann., at Oxford, Cambridge, or London. One Travers exhibition of 50*l.* per ann., at University of London. One Lambert Jones Exhibition of 49*l.* 8*s.* 9*d.* per ann., at Oxford, Cambridge, or London. One S. Thomas Medical Exhibition, of 30*l.* per ann., at S. Thomas's Hospital, for 3 years. One Goldsmiths' Exhibition, of 50*l.* per ann., at Oxford or Cambridge. Two Grocers' Exhibitions of 50*l.* per ann., at Oxford or Cambridge. One Masterman Exhibition of 30*l.* per ann., at any University, all tenable for 4 years (when not otherwise stated) at the Universities. One David Salomons Exhibition, of 31*l.* 10*s.* per ann., tenable at the School. One Jews' Commemoration Exhibition, of 40*l.* per ann., tenable for 3 years at School or University College, London.

* For the principal facts we are indebted to Rentledge's "*Men of the Time (Eleventh Edition)*" and "*Our Schools and Colleges*," by Simpkin, Marshall & Co.

Two William Tite Exhibitions, of 25*l.* and 20*l.* per ann. each, at the School. One Lionel Rothschild Exhibition, of 60*l.* per ann., tenable for 4 years at an English or Foreign University. One W. Stormes Hale Scholarship of 43*l.* 17*s.* 6*d.* per ann., at the School, and afterwards at Oxford, Cambridge, or London University.

Dr. Abbott has been very successful in making the English language both a profitable and interesting study, and his manuals for beginners, "How to tell the Parts of Speech" and "How to Write Clearly," are admirable specimens of condensed directions for the use of teacher and pupil. Grammar ceases to be mere formal drudgery, but is evolved almost unconsciously out of its correct and pleasing use in actual conversation and composition.

Dr. Abbott has published the following theological works: "Bible Lessons," 1872; "Cambridge Sermons," 1875; "Through Nature to Christ," 1877. His other works are, a "Shakespearian Grammar," 1870; an edition of "Bacon's Essays," 1876; "Bacon and Essex," 1877; and an "English Grammar." Dr. Abbott is also the author of two religious romances, published anonymously: "Philochristus: Memoirs of a Disciple of our Lord," 1878; and "Onesimus: Memoirs of a Disciple of St. Paul," 1882.

PREFACE TO LONDON EDITION.

THESE Hints on Home Training and Teaching (although it is hoped they may be of use to governesses and private tutors) are addressed also to parents.

The increased educational opportunities now afforded to girls and women justify the belief that in the next generation mothers will take a large part in the teaching and training of the young, at all events in the middle classes; and, even where parents have not the leisure or the desire to superintend in detail the studies of their children, they can go far to form in them those habits which constitute the foundation of their intellectual as well as their moral future, and can assist the day-school or the private tutor by an influence always most valuable, when wise. To enable parents thus to contribute to the training of their children, is one of the objects of this treatise.

It need scarcely be said that the following pages make no claim to be called an exhaustive book. They contain little more than the results of the Author's observation in the training of his own children, supplemented by experience in class-teaching and in the examination of pupils of every age. During a long professional career many books on education have been of course studied and assimilated, such as the instructive and stimulating works on "Educational Reformers" and "Practical Educationalists" by Mr. Quick and Mr. Leitch, and the suggestive though uneven treatise by Mr. Herbert Spencer. To these and others the Author doubtless owes unconscious debts, but more especially to Stowe's "Training System." In spite of many exaggerations and some mistakes (inevitable for every enthusiast), that book is likely to retain for many years a very great value for all teachers. The interesting work by the Baroness Marenholtz-Bülow on Froebel's system, and the valuable Lectures delivered by Mr. Fitch before the University of Cambridge, were not studied until after the composition of the rough draft of the book; but the former has helped to put some old truths in a new light; and to the latter the

Author is indebted for several hints about the teaching of special subjects — obligations which will be found duly acknowledged as they occur.

Partly to save the space that must otherwise have been devoted to transitions and introductions, and partly to give the book the appearance of being what it really is, viz., a collection of hints, and not a continuous or complete treatise, the Author's remarks are set down disconnectedly, and perhaps in some cases abruptly, the main object being to say as briefly and clearly as possible no more than needed to be said.

Some apology may seem to be required when a single teacher presumes to give even hints on the teaching of so many subjects. But in supervising the miscellaneous curriculum of a large school, the Author has been forced to consider in detail both the theory and practice of many departments of instruction; and hence the area of these "hints," wide though it be, is very little wider than the Author's perhaps too wide circle of professional experiences; which are here set down in the hope that they may enable others to avoid some of the mistakes that he made, and improve on the successes that he thought he had achieved.

EDWARD A. ABBOTT,
City of London School.

LONDON, 1883.

I. MORAL TRAINING.

1. HABITS IN GENERAL.

MAN has been described as a bundle of habits; and Bacon tells us that, whatever may be our sentiments and professions, it is habit that dictates our actions: "Men's thoughts are much according to their inclination; their discourse and speech according to their learning and infused opinions; but their deeds are after as they have been accustomed."

The business of the trainer of children is to mould them for right action by creating in them good habits.

2. THE FORMATION OF HABITS.

Habits are formed by the repetition of actions; and therefore in deciding whether this or that action is good for children, we must constantly ask ourselves not only, "Is the action good in itself?" but also, "Suppose this action, by repetition, to develop a habit; will the habit be a good one?"

It is a pleasure to healthy children to move and to act; and it must be the trainer's object not to suppress action, but to regulate it with a view to producing good habits.

As Nature supplies a plant with influences from earth, sun, and air, all tending to growth, so Nature supplies a child with sights, sounds, objects of touch and taste, inciting him to act, to experimentalize, to attend, observe, and remember, thus stimulating both bodily and mental development.

Put a child to roll on the sea-beach. With the sand to shape at his pleasure, the shells, pebbles, and sea-weed, all close at hand and suggesting countless observations and experiments, he cannot be in a better school. Shut up the same child within the four walls of a room, and his growth will be retarded, because you have deprived him of Nature's gifts.

All children bred up in towns are to some extent thus imprisoned; and they require a kind of interpreter to represent Nature, as it were, to them, and to supply them with substitutes for the gifts from which they are excluded. Even for children in the country Nature does not always suffice without the intervention of some kind selecting hand. The gifts of Nature are sometimes too vast, too distant, too complex, and too similar to come within the compass of a child's observation and discrimination. Nature gives, but it is the business of the trainer to select such of her gifts as may be near, distinct, and suggestive.

What is called the system of Froebel is based upon the recognition of the importance of Nature's influence in the training of the young, and upon the part which may be played by the trainer in the selection

of her "gifts." For example, he lays it down—and the precept seems in accordance with common sense—that children should first be presented with opposites, *e. g.* yellow and blue, treble and bass, rough and smooth, hard and soft, because contrast naturally appeals most powerfully to the infant perception. Afterwards he would present the intermediate objects which connect these opposites, showing the child, for example, the different colors of the rainbow which lie between the yellow and blue, and, as it were, unite and reconcile them so as to exhibit what he calls the Law of Reconciliation. For details of Froebel's gifts the reader is referred to special works upon his system; but it must be borne in mind that no toys of this kind, and no system of any kind, can supply a substitute for common sense and observation of Nature's rules on the part of the trainer.

3. HABITS FORMED BY IMITATION.

It is well known that children will imitate irrational objects of every kind, from ducks to steam-engines; but few recognize the very great extent to which they unconsciously imitate their elders in voice, manner, temper, and in a thousand other minute matters which go towards the formation of habits.

Where parents undertake the training of their children there is a special likelihood of imitation, because, in many cases, the latter will have a physical predisposition for the habits of the former. Those, therefore, who are hasty, careless, unobservant, slovenly, hot-tempered, and the like, ought not to be surprised if these habits are reproduced in their children. To come to a smaller matter as an instance, no amount of scolding or teaching is likely to induce a child to attach sufficient importance to writing legibly and carefully, if he constantly sees his father or mother producing an illegible scrawl.

It is in part for this reason that children taught in a school are, for the most part, more orderly and neat in their handwriting and school-work than those who are taught at home. At school there is generally a supply of methodical, orderly pupils, whose work can serve as a pattern for the rest, and the less methodical are more influenced by the sight of what is actually done by their school-fellows than by general exhortations about order and neatness. Another reason is, that parents—and, in a less degree, governesses and private tutors—because they are in sympathy with their pupils and "understand what they mean"—often pass too indulgently over omissions, slips, and slight errors of eccentricity, which would be more wholesomely and justly criticised if contrasted with the better work of other children of their own age.

Although, therefore, there are very great advantages in early home training where it can be given regularly and thoroughly, yet parents and private tutors will do well to be on their guard against the special dangers of inexactness and slovenly incompleteness.

4. THE HABIT OF ATTENTION.

Of all habits, the most valuable, both intellectually and morally, is the habit of attention.

In their religious rites the Romans, the conquerors of the world, were wont to enforce attention by saying to bystanders, "Do this"—meaning, "Do what you are doing, and nothing else"; and it is by the habit of *doing what one is doing*, or, in other words, by attention, that worlds and difficulties are conquered. This habit can be encouraged even in the very youngest; but it is too often discouraged, especially in the children of the richer classes, by an injurious multiplicity of toys and distractions.

On this point I should be glad to quote some quaint remarks by a teacher of considerable experience, on whose judgment I place great reliance. His illustrations deal mainly with common things, and are set down in a familiar style that may seem to some a little too familiar for publication, and to others occasionally savoring of hyperbole. But, without asking my readers to pin their faith on every one of his opinions, I believe they will generally be found to contain much that is fresh and suggestive. As I shall have frequent occasion to quote him, it may be well to give him, both here and elsewhere, the title of "Preceptor." It will be seen that he is vehement against the evil of distracting young children, and he begins from the very youngest.

"Give," he says, "a baby a ball, and he will begin to study it as Nature dictates. He will look at it, feel it, turn it, squeeze it, suck it, smell it, throw it away, and crawl after it for a second study. All this while he is a Student in the University of the World, and under the supervision of the best of private tutors, Experience. Every faculty is being naturally exercised; through every avenue knowledge is being naturally and pleasurably acquired. Let the student alone, then. You did your part when you gave the child the ball, making yourself the Interpreter between Nature and Nature's student. Now suffer Nature to do her work. You cannot improve upon it.

"But now suppose a couple of kind, well-meaning aunts break in upon the happy and interested child, one shaking a silver rattle in his ear, and the other pushing before him a big white horse or a bleating sheep; and simultaneously let two or three elder cousins or friendly visitors attract his attention by various noises and gestures of endearment. At once the spell of interest is broken. The little creature looks from one to the other, distracted but not attracted, bewildered but not pleased. 'How happy could I be with either!' he would say if he were old enough. But not being old enough, he must endure the consequences of the misplaced kindness of his friends—consequences not quite so transient as they seem! His first voyage of discovery has been rudely interrupted, and the poor little adventurer returns laden with a cargo of nothing. Nay, rather say a cargo of something worse than nothing. For instead of helping the child to implant in his own

little heart the first germs of that most precious habit of attention, his too officious friends have done their best to sow the seeds of mental dissipation and inattention."

What is the moral of all this? It is that we must be careful from the first, while giving children enough, not to give them more than enough—that is to say, more than their minds can easily take in. Do not obtrude interesting objects on a child who is wholesomely interested already. To break the natural sequence of a child's thoughts is mentally as mischievous as it is physically to wake a child suddenly out of a refreshing sleep. As it is the mark of a great artist to know when to omit, so it is the mark of a good trainer to recognize the danger of interfering with Nature, and the usefulness of leaving children sometimes to themselves.

5. OBSERVATION.

The faculty of observation is secondary to, and in some degree inconsistent with, the faculty of attention; when attending, *i. e.* given up to the study of one thing, the child cannot always be free to observe other things going on around him.

The varied sights of Nature out of doors are the best stimulus to observation, and the best preservative against the rare danger of excessive concentration; and not having these (however great may be the artificial distractions of town life) town children are somewhat at a disadvantage as compared with country children in the training of the faculty of observing.

A powerful incentive to observation is found in the habit of making distinctions. Until a boy has been taught the different kinds of clouds he will be content to stare vaguely at them; but when he has learned to distinguish between "hair clouds," "heap clouds," "level clouds,"—for of course we shall not inflict on him the technical terms for these objects—he looks at them with a new interest and quickened power of observation. And so of trees: to learn the characteristics of an oak or an elm separately is rather dull work; but to note the differences between them is more interesting and appeals more readily to the memory. At a very early age children may be led to take pleasure in collecting and classifying the leaves of plants and trees; and this method of training the observation is within the power even of those bred in towns. Much may be done or undone in a walk with children. "It was my fortune," writes Preceptor, "as a child to be taken for walks by a friend who encouraged me to converse on some subject of literature or history, or to cap verses, or the like, the consequence of which (and in part perhaps of other causes) has been to develop in me a considerable power of attention and abstraction, but a singular inability to observe."

Walking in town may seem a necessarily dull and barren occupation, so far as the observation of natural objects is concerned; yet even in

the suburbs and parks of London, the clouds, trees, wind, smoke, weathercocks, shadows, points of the compass, sun and moon, afford objects to which the observation of a little companion may be directed, and topics on which a conversation may be hereafter started.

Indoors something may also be done by making a child shut his eyes and tell you what is on the mantelpiece? what on my side of the room? what on yours? Or sometimes, after showing him a picture, you may examine him in the same way. It will be a good plan first, however, to shut your eyes and present yourself for examination, allowing the child to correct your mistakes and supply your omissions.

Later on, observation may be stimulated by teaching a child to take an intelligent interest in things by learning the How and Why. Drawing is of course a powerful developer of this faculty; but drawing, at the present stage, is out of the question. Let it only be added that for observation, as well as for attention and most other good habits, it is indispensable that the child should be physically and mentally healthy and fresh, and that the moral of the last aphorism holds good for observation, no less than for attention, that a child must not be required to observe something new when he is still engaged in observing something old.

To sum up, there are three dangers to be avoided: (1) vacant staring; (2) excited distraction; (3) excessive concentration. Of these the first is perhaps most to be avoided for country children; the second for those in towns; the third is rare, and in the coming generation likely to be rarer.

6. MEMORY.

The memory will have been developed, first, by the habit of attention; secondly, by the habit of classification and observation; but it may also be stimulated by encouraging a child to give an account of what he has seen or heard, under the guidance of questions so regulated as to help the child to *divide*, and thus bring out an orderly narrative.

Thus, if a child has been to the Zoological Gardens, instead of asking him for "a description of the Zoological Gardens," or "Tell me now, what did you see in the Gardens?"—questions to the indefiniteness of which the poor boy is likely to succumb in silent bewilderment, or else to make confused and chaotic answers—you must help him thus, "So you have been to the Gardens? Well now, I want to hear how the beasts are getting on. First, the savage beasts that eat flesh. Did you see the lions fed?" etc., etc. Then you may proceed to the birds, beginning with the eagles, and so rapidly go through the whole. At the end, if you like, and if the child is in the humor to listen, you may give him a kind of summary of what you have elicited from him, so that he may find himself unconsciously committed to a methodical narrative.

To take once more the ancient Romans for our example, the motto that they used for ruling, "*Divide and rule*," we may utilize for remembering. Associations are of great importance in the cultivation of the memory; and we shall have more to say on this point when we treat of the memory as applied to repetition lessons; but even without intelligent associations, the mere process of *division* is of great help.

"Among other debts," writes Preceptor, "which we owe to Shakespeare, is the invention, or popularization of the word *Honorificabilitudinitatibus*; it affords such excellent practice for teachers and pupils. 'What a word!' says the poor bewildered pupil on first hearing it, 'I shall never remember it.' 'Wait a bit,' you reply. 'Any one can say *honôr*.'¹ Pupil. 'Yes, *honôr*.' Teacher. 'Now say, *hônôr-îfîcâ*.' Pupil. '*Hônôr-îfîcâ*.' Teacher. 'Say it again; now again; once more; that will do. Now for *bîlî*; that's easy enough; it's a boy's name. Say it. Now *bîlîtû*. Good; now say, *dînitâ*. Right. And now, *bîlîtû-dînitâ*. Again; again. Now, you see, there's a rhyme:

Hônôr-îfîcâ
Bîlîtû-dînitâ.

Say it. Sing it, if you like. Good. Now again. Once more. Now you've done it. We've only to add *tibus* at the end.

"I well remember," he adds, "being taught this very word in some such fashion by my father, and teaching it similarly to my children; and I think that every boy in England ought to be taught to pronounce it, and till he pronounced it easily and rapidly, ought not to be considered to have *passed* in pronunciation."

7. EXACTNESS.

"Writing," as we all know, "maketh an exact man"; but as the child, now under consideration, is supposed not yet able to write, some substitute for writing is needed in the attempt to make him exact; and the best will be oral description by the child of something that he has seen. Some skill is here required to induce children to give anything like a continuous description, without feeling that they are being persecuted or forced to "make an exhibition," than which nothing is more detestable to the young. Under the head of "Observation," above, are set down a few hints as to devices by which this may be effected, and among other means was mentioned the use of pictures. On this point I will once more insert some remarks by Preceptor.

"I was in the habit," he says, "of getting a very good lesson in exactness for a youngster out of a picture-book of animals, containing striking and highly-colored, yet accurate, representations of the *locale* of the several creatures. After a picture had been carefully examined, and the particular animal noted in detail (his shape, color, tail, tusks, mane, etc.), and after comparison or contrast had been drawn between

¹ Stress should be laid on the *or* here.

this and others known to the child, attention was next directed to the scenery, hill or plain, rocks, rivers, trees, or other vegetation.

“We used then to shut up the book, and set out upon a hunting expedition to chase the beast, I being the hunter, and my boy the dog. Arrived at the country, the hunter questions the dog as to the nature of the scene, and obtains convincing proof that he has reached the habitat, say of the hippopotamus. At last we spy a creature which the dog is again called on to describe. It is found to be of a greyish blue, with a huge smooth body, short, thick legs, small tusks, small ears, very small tail and eyes, and is either wallowing in some stream or trampling a rice-field. All these particulars having been elicited in rapid dialogue, the animal is chased, slain, and (if possible) eaten; and I used to think that he never perished without having afforded a good mental, as well as physical, exercise to the dog.”

Arithmetic of course affords a far better training than this in exactness; but our pupil is not supposed to be at present capable of arithmetic, and such an imaginary hunting scene may supply a hint to parents and tutors as to the kind of means by which exactness may be encouraged simultaneously with observation and imagination.

8. IMAGINATION.

When our minds are dissatisfied with the objects presented to them, we find in ourselves a faculty, called imagination, of creating an image of something better. In order, therefore, that the mind may imagine, two things are generally necessary. First, it must have previously received striking and memorable impressions (for no mind can construct images save out of the mental material already accumulated); secondly, the person must not, at the moment, be able to perceive objects like those which he is imagining. “What a man seeth,” says St. Paul, “why doth he yet hope for?” and the same applies to the imagination, which is a kind of strain of the mind attempting to realize things beyond the experience of the senses. If a child is *always* completely satisfied with what he sees and hears, he will be under no stimulus to imagine.

It is for this reason that elaborate toys are detrimental to the exercise of the imagination. They are so complete in themselves that they leave nothing to be supplied by the child's mind.

Fairy stories encourage the imaginative faculty, because they present things old, in combinations so new, as to take the child altogether out of the range of things which he sees, and stimulate him by pleasurable associations to realize visions utterly unlike his own experiences.

Several of Æsop's fables may be dramatized by children and for children; and such dramas, like the hunting exercise mentioned in the last section, besides stimulating other faculties, develop the imagination also.

9. ORDER.

A child will learn habits of order in part by seeing order in every part of the household around him.

Yet if he is allowed too long to enjoy the results of order without himself contributing to them, he is in danger of assuming that order can be maintained without effort, and of ignoring the disadvantages of disorder because he has never experienced them.

He must, therefore, begin at a very early age to put away his own toys, and occasionally to feel the inconvenience of not having put them away. If he leaves things about, so that they are mislaid, he must search for them, and so gradually learn that disorder means inconvenience and annoyance.

10. DUTY.

Duty seems naturally to connect itself with rights and possessions. Even toys are felt by a child to have a kind of claim upon him to be preserved from misuse and destruction; and the task of taking care of them and keeping them in order introduces to him a rudimentary form of responsibility.

But with much more force does the possession of pet animals enforce the sense of duty. That birds and rabbits are to be regularly fed is intelligible to very young children indeed; and though a child's office be merely to see that a kitten has its milk, or to throw out crumbs to the birds after breakfast, some little perception of duty is thereby instilled.

It is well to begin very early to apportion to young children little duties and offices in the household, the more real and useful the better; but almost any are better than none, unless they are so palpably superfluous that even a child perceives their uselessness.

11. THE APPETITES.

Healthy and active children are not in much danger of becoming greedy or epicurean, unless the example of their elders leads them wrong. Where they are not extremely delicate, and averse to food, it is best to assume that they will eat whatever is set before them, and to allow them occasionally to try a little of the Spartan sauce, "hunger," rather than to give way to their whims and fancies about food.

"Where there is a tendency to greediness it may be well," suggests Preceptor, "to try to rule the appetite for food by the appetite for play, making some game or amusement follow immediately after the meal; or during dessert a bird-cage may be placed on the table (as Froebel suggests), or a microscope may be called into use."

Fastidiousness is probably more difficult to cure than greediness; and it is not always easy to distinguish natural and constitutional aversion to certain kinds of food (*e. g.* fat, rice, milk) from an unnatural craving for strong and agreeable flavors. Preceptor is doubtless right

in thinking that the appetite for luxurious food may be sometimes driven out by the appetite for play. But medical advice ought to be taken before parents compel a child to eat whatever they may put on his plate. Even where a child is exempted from the necessity of eating certain kinds of food, the habit can often be broken by insisting that a very small portion shall be eaten, and gradually increasing the amount. The parents, having once determined what the child can, and what he cannot, be expected to eat, must carefully avoid giving him anything that he cannot eat, and must rigidly insist that nothing shall be "left."

The disgust manifested by parents at any symptoms of greediness, and their displeasure at fastidiousness, will go some way to cure these faults; and wherever dining is enlivened by cheerful conversation, intelligible to children, there is an additional preservative. But by far the greatest safeguard is abundance of exercise, and such an arrangement of meals that the child shall not be called to eat till he is hungry.

Under the head of "appetites" there come other desires, natural and harmless when not carried to excess, such as love of sport, love of bed (in the morning), love of the fireside, as to which only one general rule can be laid down, viz., that a child should be very speedily imbued with the notion that the law and order of the household are superior to his own desires, and that he must be prepared continually to conform himself to regulations. Occasionally, as children grow older and more capable of appreciating reasons, it may be well to point out to them how the full indulgence of this or that desire may interfere with the comfort of others; but it is best at first to dispense with arguments of this or any sort, and to take one's stand on Law, assuming and inculcating that Law is to be obeyed, and that "no child must expect to do what he likes."

12. THE WILL.

The same training that breeds the habit of attention tends to strengthen the will; and those distractions which were said above (§ 4) to be unfavorable to the former are no less unfavorable to the latter.

For the development of the will two opposite kinds of exercises are useful.

1. Sometimes we must set easy tasks, so as to generate a habit of reasonable self-reliance, and prevent the pupil from becoming dispirited by continuous failures.

2. Sometimes we must set more difficult tasks, such as involve some wholesome strain of the powers, so as to lead the child up to a higher standard of exertion, and to prevent him from becoming too easily contented with himself.

The judicious interchange of hard and easy exercises is a part of

moral as well as of intellectual training; and the parental instinct or intuition is never better employed than in discerning between those temptations which the childish will may reasonably resist, and be the stronger for resisting, and those, on the other hand, which are likely to prove too strong for resistance, and to which, consequently, a child ought not to be exposed.

Never make it your aim to break a child's will.

Of course, where a child is stubbornly disobedient, disobedience must be punished and obedience enforced; but you must all the while remember that you do not want to destroy the child's will, but to turn it in the right direction. There is more than a mere difference of words in this distinction. There are many punishments of a humiliating and degrading nature which will be adopted by those who desire to "break the will," and which are very efficacious for that purpose; but by those who do not want to "break," but to "bend," such punishments will be suspected, as destroying the very thing we desire to preserve and improve.

13. OBEDIENCE.

Children would be generally obedient if they were ruled unselfishly, uncapriciously, and intelligently.

If a child is engaged in some interesting and harmless occupation, and the nurse abruptly calls him away to show him something pretty which he does not care for, he will go back to his amusement with a feeling of resentment, less disposed to trust the wisdom of commands, and less willing to obey next time. Again, if children are sent suddenly off to bed, in the midst of some absorbing play, without a word of warning or a little tact in sobering down the excitement of the game, so as to prepare for the end, there is very likely to be a tendency to murmur.

By "warning" and "tact" it is not meant that the hour of bedtime should be delayed. On the contrary, it should be adhered to unalterably; or, if it is ever deferred on very rare and special occasions, this should be done from the parents' own will, and *never on account of the child's request*. But it is very easy for a sensible nurse or mother (provided she has leisure to supervise the children) so to arrange matters that a story or game may just come to an end at the right time.

Requests to "stop up a little longer" should be not only never granted, but even prohibited. But, on their side, the parents would do well to consider, when they find children habitually lying awake, and habitually unwilling to go to bed, whether they may not have fixed the hour of bedtime unreasonably early. In such cases it would be well to make it later. If the mother—for whom in this matter no nurse can possibly be an adequate substitute—is in the habit of "hearing prayers" before the little one retires for the night, she will find that the sobering influence of this preparation is one of the best anti-

dotes against bad temper and childish rebellion. But then the prayers must not be a mere form, not hurried through, and not entirely above the child's comprehension. A brief petition for father and mother, sisters and brothers, and that the little one may be "made a good boy," together with the familiar verse addressed to "Gentle Jesus, meek and mild," make up the best possible prayer for a little child. More than this is likely to be less intelligible, and possibly tedious.

But much will depend on the circumstances of the prayer. "I was present once," writes Preceptor, "in a Yorkshire cottage-inn, while the mother was hearing a little child say its prayers for the night; and I remember that the performance included not only the repetition of the Apostles' Creed, but also answers to two or three Biblical questions, such as, 'How many Persons are there in the Trinity?' 'Who was the first man?' 'Who was the first woman?' Yet I felt that the little infant service, if I may so call it, was of the sort that goes upward. And why? Because the mother's questions were imbued with so deep a reverence, and because the family and guests preserved such a reverent silence, that the little one itself seemed to feel that there was reverence in the air. I don't believe the child understood anything, but he seemed to me to *feel* much."

There appears to be in these remarks a force which applies to every household prayer. The mother must be a kind of help to her child to enter a higher atmosphere. The little one must not only learn from her lips, but catch something from her spirit. If this be borne in mind, it will be unnecessary to dwell on such details as that the child must not begin to speak directly he is on his knees, must not gabble, must not get up directly he has finished, and so on. Minute regulations of this kind are only of importance in so far as they are signs of a mother's reverence, which may almost be said to form the most important part of a child's prayer.

This mention of reverence as an agent in making children obey leads us to lay down a general rule that the love, trust, and reverence felt by children for their parents are the most powerful and legitimate causes of obedience; and for the very young, before they have yet learned to understand the full force of words, the mere countenance of the father or the mother often sufficiently warns them whether they are doing well or ill.

In the next place, among the means for securing obedience comes the judicious utilization of the natural desire of most children to be "useful." It is usual to say that children delight in destroying; but they delight more in doing what their elders do, and especially something that is "of use." In a multitude of little ways a nurse or mother can give a child this most pleasurable of childish pleasures, and at the same time instil the obedient habit: "Do you think you are strong enough to hold this for me?" "Can you manage to do that?" "Are you clever enough to find this?" "Are you old enough to do that!"

Thus, by a very legitimate guile, the young may be taught to put on the yoke in their earliest days.

Reward, direct reward, for obedience, must never be given. Indirectly, children will, of course, feel the pleasure of obedience in the sense of helpfulness, and in the approbation of their elders; and sometimes they may be allowed to see distinctly that, by obeying, they have gained some pleasure which disobedience would have forfeited. But under no circumstances must obedience be *bought*.

Nor must obedience be courted or besought. "I have heard," says Preceptor, "some parents petition for obedience in tones or words which constituted a sensible provocation to a refractory child, stimulating rebellion: 'Now, I know, you will be a good child, and do this'; 'Really, my darling, I must have you do that'; 'Wont you be a good boy, and come here?' All this is as bad as it can be. The parents must be careful before committing themselves to a command; but, once committed, they must issue it as a command, in perfect faith that it will be obeyed, and there must be no retraction, hesitation, coaxing, or even arguing."

Of course, sooner or later, occasions must arise when the child's will comes into conflict with the will of his rulers, and has to give way. And it is to prepare for this crisis that the habit of unquestioning obedience must be early formed. It ought never to be necessary (unless the child has some unusually strong and mischievous propensities) to resort to force in order to secure obedience; yet force must be used rather than failure endured.

For minor faults, minor punishments may sometimes be needed. As far as possible, they should be made to spring naturally out of the fault, unpunctuality being punished by the loss of some pleasure for which the offender arrives too late, and so on. But this cannot always be managed. In most cases the child must take for granted (from his general trust in his parents) that rules are made for his good, and that it is just that the breaking of rules should be punished. For further details on this point, see below (§ 18).

In conclusion, parents and tutors must bear in mind that, if they cannot secure obedience without constantly punishing, either the circumstances in which they have to rule must be very unfavorable, or (much more probably) they themselves are on a wrong track, and some blame rests with them. Too often, inexperienced trainers of children wish to govern them by suppressing nature, instead of directing nature. The former task is as impossible as to suppress a stream; the latter is (comparatively speaking) as easy as to direct a stream. "How often," writes Preceptor, "do I hear of teachers giving boys impositions for 'talking in class'! That always seems to me extremely *young*. During my twenty years of experience in teaching, I don't think I ever gave a boy any kind of punishment for 'talking in class.' 'How on earth do you manage,' young teachers sometimes say to me.

By teaching in such a way that the boys don't want to 'talk in class,' and by letting them talk when not 'in class.'"

These words of Preceptor appear to me to apply to training of all kinds, as well as to class-teaching. A tutor who is always punishing should ask himself from time to time, "Is not the fault partly with me? Do I understand my pupil? Am I trying to dam up, instead of directing and utilizing his natural energies? One of us certainly is wrong, but am I certain that it is the taught, and not the teacher?"

14. KINDNESS AND HELPFULNESS.

It is natural for children to infer from their early habits of dependence and helplessness, that it is their part not to help but to be helped; and unless the natural corrective of younger brothers and sisters is introduced, a child may grow up obedient, orderly, and truthful, but without the kindly instinct of helping others. "I remember," writes Preceptor, "an amusing instance of the natural selfishness of children, when a boy of some three years old for the first time found his customary romp with his father interfered with by the claims of a little sister, aged one. In answer to the boy's expostulations when the father replied that 'he must play with baby sometimes,' there was a touch of pathos in the boy's very natural reply, 'You didn't use to, once.' It is to be feared that too often children without brothers and sisters grow up undisturbed in this natural selfishness till a period long after childhood."

All the more needful is it to find for solitary children such substitutes as can be procured for the salutary influences of companionship. Kindness to animals, besides being a habit to be taught for its own sake, is no small help towards teaching kindness to human beings. The habit of helping parents, touched on above (§ 13), is also of use. If the parents are in the habit of themselves being helpful to others—not always an easy habit to acquire in our unneighborly metropolis—the children will perhaps be more influenced by their example than by their precepts. It is also well for children to associate with worship the regular custom of making some small contribution for "the poor people" out of their pocket-money.

Books and lectures on the duty of kindness may be of some use if they are joined with practice of some kind; otherwise, they are worse than nothing.

15. TRUTHFULNESS.

An imaginative child, while very young, will sometimes invent fictions where he ought to state facts; and this, not through fear of punishment or hope of reward, but from the delight of indulging the imagination. But this habit, which ought to be carefully distinguished from self-interested falsehood, is soon checked by pointing out the mischief of it, and by showing how good and useful is such a custom of exact truthfulness in a child as will enable his parents and friends

to trust implicitly every word he utters. Still more powerful will be the effect upon the child's mind of a constant adherence to exact truth on the part of elders, even at the cost of inconvenience.

Truthfulness must also be encouraged (1) by avoiding excessive punishments, which drive a child to falsehood through intense fear; (2) by invariably treating untruthfulness as a grave moral offence, even where no great inconvenience results from it. Flogged children and spoiled children compose the main body of the army of liars.

Untruthfulness is often engendered by the failure of those in authority to distinguish between grave faults and inconvenient faults. Playing with fire, for example, is a very inconvenient fault in children; and, if it has been expressly forbidden, it may become a very grave moral fault in those who are old enough to understand the force of the prohibition; but, at the worst, it is not so grave a fault as stealing, or lying, or as the use of vicious language. Now it is to inconvenient faults of this former kind that children are mainly liable. Their restlessness, their curiosity, their ignorance of natural laws, their weakness of body, and inexpertness of motion render them peculiarly likely to break, to disarrange, and generally to destroy; and it is sometimes a hard trial for the mother to see these childish characteristics produce before her eyes the destruction of some cherished ornament, and yet to keep her temper.

Yet she ought to reflect how very much more influence will be exerted upon her children by the expressions of her countenance and the hasty utterances of passion than by the formal exhortations of more sober and conventional moments. None are so ready as children to detect the discrepancies between the natural and the artificial utterances of their elders; and there is a two-fold mischief when a child is led not only to discern something like hypocrisy in his parents, but also to adopt their natural, rather than their artificial standard of morality, and to esteem falsehood as a venial offence, in comparison with the breaking of a piece of china through an act, not of disobedience, but of mere thoughtlessness.

With young children, even when well trained, and still more when they have fallen into habits of inexactness and petty approximations to untruthfulness, very great care should be taken not to drive them into a definite falsehood by too abrupt and sudden questions. Many a child will tell you the truth if you give him time, but may slip into a falsehood if you are too hasty with him, in the instinctive desire to put the best color on his actions and cut a creditable figure; and the danger is the greater, if he be impulsive, sanguine, and unusually sensitive to praise and blame.

Nowhere, therefore, is the tact of a teacher better exercised than in such cases as these, giving the pupil breathing-space for reflection, and so wording the question as not to terrify, but to induce confession, yet without leading him to gloss or extenuate his fault.

Of course, where a habit of truthfulness is established, a straightforward question is best, as being most respectful to the child questioned, and most bracing to the robust nature; but for a waverer no tact can be too great, provided it does not display want of faith. Instead of the direct question, "Did you do this?"—which may probably frighten the child into a "No" before he is aware, you say, "Now I shall certainly be vexed if you have done this, but I shall not be nearly so vexed as if you were to say what was not true. How did it happen? Tell me all about it." Sometimes it may be well to state definitely the punishment that will be inflicted. Suppose, for example, a child has broken some very valuable piece of furniture, and is trembling for fear of some quite terrible punishment proportioned to the mischief he has caused. You may say, "Well, of course you did not intend this, but I must give you some punishment for your carelessness"; and then mention what it will be, finally asking the child to "tell you how it happened."

16. SIMPLICITY.

The habit of simplicity is valuable, partly and principally because it is allied and favorable to truthfulness, partly because it helps to develop originality.

A word on the latter of these two points. Much of the quaint simplicity and apparent originality of a child arises from his endeavor to adapt his limited experience and vocabulary to the continually enlarging circle of his life. "Hence," says Preceptor, "when new things present themselves to a child, he tries to describe them by combinations of old words, calling a tarpaulin 'a big black blanket,' or cork soles 'foot-prints,' and the like. And hence also, being entirely unconventional, ignorant of metaphor, and necessarily familiar with daily change, he is sometimes amusingly consistent and thorough in his adoption of new thoughts and literal interpretations; like the boy of seven years old who, having been told that his first day's hunting was to 'make a man of him,' was overheard on the evening of that day praying (in defiance of all rhyme and custom) that 'Gentle Jesus, meek and mild,' would 'listen to a little *man*.'"

Children should be allowed as long as possible to follow out their thoughts and adapt their old to their new experiences in this unconventional way; for this unbiased, fresh, and consistent manner of looking at things tends to the encouragement of the reasoning faculty. Therefore, even when no strangers are present, parents will do well not to derive too much open amusement from the quaint sayings and doings of their children. Not, of course, that they are to suppress a smile when they hear of the "big black blanket" or the "red foot-prints"; but they are not to "chaff" the child on these linguistic coinages, not to bring them up in joke against him time after time. "Well, it is something like a blanket, but we generally call it a tarpaulin," is the best way of dealing with the child's invention. Thus

you put the child on your own level; and while you help him to enlarge his vocabulary, you encourage him to confide to you similar childlike linguistic experiments hereafter.

But if, on the contrary, you impress upon the child that he has said or done something extremely amusing (whereas he has only been doing or saying something that is to him quite natural), and if you induce him to say or do the funny thing over and over again, and to make himself a clown for your delectation, then you must not be surprised to hear him afterwards repeating the exhibition, and making himself a clown for the delectation of the servants and others, and gradually falling into the habit of saying and doing things, not because they are natural, but because they seem to him likely to be clever or funny.

Still worse is the result when children's oddities are paraded before strangers. Many parents, sensible enough in the ordinary affairs of life, appear quite insensible to the mischief they do children in "showing them off." Covertly or openly attempted, such exhibitions are readily detected by a child, who is singularly keen to perceive from the slightest tone or expression of his elders that he is being "drawn out"; and he either resents it by retiring into the inmost recesses of shyness, or else he acquiesces and exhibits himself as an actor. The latter alternative is, perhaps, the worse of the two; but either is bad. If he rebels, he may become rude, shy, and disobedient; if he complies, he is in danger of becoming pert, affected, and insincere. In either case he loses that fresh simplicity which is the greatest charm of childhood, and learns to suspect his very parents of something approaching to insincerity.

One reason, perhaps, why the children of great men hardly ever do anything worthy of their parents is because, much being expected from them, they are, from their earliest years, watched and noticed to excess. A most necessary part of a child's training is that he should be often left alone; only thus is there any hope of developing original power.

Some may object that if you continually correct a child's droll originalities you make him prematurely sensible, and cut short nature's period of childhood. It is not so. The effect is precisely opposite. By correcting him, without laughing at him, you prevent him from being laughed at, you save him from becoming affected or shy, and although this or that particular childish *word* may be lost, you encourage him to retain the childish *method*; but by laughing at him and not correcting him you gain the repetition of a childish phrase at the complete sacrifice of the childish disposition.

Hence, even for those who like children mainly for the amusement they afford, and who use them as little better than playthings, it is a great mistake to harp upon, or exhibit, a particular specimen of their simplicity. "The big black blanket" will never be repeated a second time with the original naturalness, or enjoyed with the original zest:

if you procure its repetition, you destroy the simplicity which might have given rise to other sayings as good or better.

17. REVERENCE.

It is hardly possible for a child to feel reverence at all unless he feels it for his father and mother; and in the modern and (in the main) wise attempt to make children obey parents from love and not from fear, care must be taken that, in the absence of fear, reverence is not also banished. If, therefore, parents join sometimes in the sports of their children, a marked line should be drawn between play and earnest. Let the former be a republic; but the latter must always be a monarchy.

Reverence is naturally felt by a child for one who is stronger, wiser, and better than himself; and at first a child, in favorable circumstances, imagines his parents to be perfect in these points. As the child becomes inevitably disabused, it is important that he should feel reverence for strength, wisdom, and goodness in others besides his parents. For this purpose society, history, and poetry may be in due course utilized; but the child whom we are now considering is far too young to be impressed by history and poetry, or, in any important degree, by society. Long, however, before these influences can be felt, the child is susceptible to the feeling of awe for One above, whom he sees approached by his parents in an attitude of reverence, and whom he is taught to approach in the same spirit.

As to the influence exerted on children by the attitude of the parents towards the Father of all, the little that is to be said falls more fitly under the head of Religious Instruction, which will be found briefly discussed at the end of this book. But it may be worth while to say emphatically here that conventionality and insincerity, most dangerous to children wherever witnessed, are most dangerous of all, if witnessed in the religious acts of their parents.

Take such a simple action as "saying grace." This custom, presenting itself to children before they have been made acquainted with the common worship of the congregation in church or chapel, is perhaps more impressive to them than is generally supposed, if without any parade or affectation a few simple words are uttered, as a natural expression of thanksgiving and acknowledgment. But if the parents repeat the words as a mere form, or hurry over it, or omit it in the presence of strangers, or repeat it in their presence, but in an apologetic manner as if ashamed of it,—in any of these cases it would be very much better, so far as children are concerned, that it should not be repeated at all.

"Most people," writes Preceptor, "would laugh at the assertion that grace was sometimes said in such a manner, or in such circumstances of religious training, that a child hardly knew whether the prayer was addressed to a Being above or to the creature below; yet I

well remember a child once taking note of the omission of the customary grace, and reminding his father that 'he had not *said his prayers to the chuckies.*'"

Perhaps we shall not be over-subtle in saying that there is some little danger to the reverence of the rising generation when there is too wide and too early a taste for parody. It is natural that a child should love incident, stirring, startling incident; even narrations of the kind called "blood and thunder" are not (for boys, at all events) very objectionable. But although it is well that they should not be indifferent to humor, it is a bad sign when the young are attracted by mere verbal witticisms or by that kind of purposed purposelessness which is best suited to afford mere amusement, than by the impossible marvels and hairbreadth escapes of fairy stories and tales of adventure. Few stories have the art of blending plot and incident with intense humor like Thackeray's inimitable *Rose and the Ring*. "For the most part," says Preceptor, "even the cleverest of parodies should be locked away from children till they are past their teens. It augurs ill when a boy of nine or ten prefers *Alice in Wonderland* to the *Seven Champions of Christendom*,—ill for the promise of imagination and originality, but also, to some extent, ill for the development of still higher qualities."

18. PUNISHMENTS.

In the reaction against arbitrary or unapt punishments, some people have been led to the conclusion that, as an invariable rule, all punishment should be natural, that is, should follow naturally as the result of the offence. If, for example, a child tells a lie, he is to be punished (so it is maintained) by the distrust which naturally awaits his future statements till he has regained a character for truthfulness.

But it seems clear that this rule cannot be always adopted, either with physical or moral errors. If a child plays with fire, a natural and convenient punishment would no doubt be that he should burn his fingers in moderation. But Nature in such cases is not moderate, and may punish the child once for all by leaving no child to punish a second time, or by grievous and permanent crippling or disfigurement. In the same way with moral offences, if a boy who has told a lie is to be treated for a length of time as a liar, his self-respect may be permanently lowered or destroyed, and so he may become a moral cripple.

The best rule seems to be that parents or teachers, in punishing, should avoid all appearance of vindictive punishing, not because *they* are injured or inconvenienced, but because a wrong has been done, and right demands correction and amendment. Provided the child feels that the punisher has no pleasure in punishing, it will not always be necessary that he should recognize exactly that the punishment springs by a natural sequence out of the offence.

Yet in minor offences it is desirable that the connection between cause and effect should be retained as far as possible. Unpunctuality,

for example, may be punished by the consequent missing of some pleasure; carelessness by having to search for something or put something away at an unpleasant time; thoughtlessness by not being entrusted with some acceptable privilege requiring thought, and so on.

But moral offences should be punished, if possible, morally; and the best moral punishment for a young child is the moral shock and pain felt by the parents and communicated from them to him.

Indeed, in one sense, this is the punishment most "natural." In the world, lying may be punishable by the rough methods of the world, such as lasting disgrace, disbelief, and physical pain or inconvenience; but what is natural in the world is not natural from a father or mother. In most cases the child's sense of the grief he has caused to those whom he respects, his feeling of their disapproval, and the consequent cessation, even though it be but for a day, of the fun and free delights of his ordinary life, will suffice, without any severe and prolonged punishment. If that does not suffice, there should be a resort to "the last resources of a parent," physical punishment. Flogging does not spring naturally out of lying; but in spite of any philosophic dicta to the contrary, there is more hope of curing a boy of lying by flogging him, than by distrusting him, for days together, as a liar.

It is a common saying that "you must not punish when you are in a passion." But what is meant by being "in a passion"? If it is meant that you are not, at the moment of punishing, to retain any sense of personal vindictiveness, that is undoubtedly true, but inadequate. The feeling of vindictiveness ought not to need banishing; it ought never to have been present. If, on the other hand, it is meant that you are to wait till your repugnance to dishonesty, or to deceit, or to cruelty has died away, the answer is that this feeling—which may be called resentment, as distinguished from vindictiveness—ought never to die away. Resentment is the salt of punishment, which otherwise degenerates into the mere infliction of pain for the prevention of inconvenience.

Further, let it be remembered that punishment, if fit, is effective in proportion as it is certain and speedy. It ought not, therefore, to be delayed by one who is conscious of being wholly free from personal irritation any longer than is necessary to investigate the truth of the charge and select the fittest penalty.

II. MENTAL TRAINING.

19. REGULARITY.

Parents must not attempt to teach their children as a mere pastime for themselves, or as an occasional and irregular occupation.

Irregularity causes children not only to forget or drop the thread of a subject, but also to anticipate the possibility that "the lesson may not be heard"; and a very small amount of such anticipation discourages a studious child from putting forth his best efforts, and encourages a lazy one to neglect work on the chance that he may not be detected.

A certain amount of regular irregularity, however, will do no harm. I have heard of a very successful school for young boys where it is the regular custom to have short hours for work on fine days and longer hours in wet weather; and under judicious supervision and a firm control it is possible that such a system may work well. Certainly, for the very young, books should be put away almost entirely during the out-of-door time of the year, not to be opened till the shortening days once more suggest in-door pursuits.

But such irregularity as this is hardly to be called irregularity; it is part of a system, and probably a better, though less simple system than that which would prescribe uniform hours for work all through the year.

The irregularity that is to be avoided is that which springs from the engagements, distractions, or caprices of parents. This is an unmixed evil, so far as the child is concerned; for he soon perceives that there is no sort of system in the cessations of his work, and that they spring from causes out of his sphere of vision, which may at any time recur; and the feeling that at any time, and for no apparent reason, his studies may be stopped, unsettles, and, if I may so say, unsteadies a young mind.

Second-rate regular teaching is better for the very young than first-rate teaching, if the latter be very irregular. Parents whose occupations do not allow them to give regular instruction may with advantage test their children's progress from time to time; and they may in some cases throw light on special difficulties in their children's work; but, if they cannot teach regularly, they should not assume the sole responsibility of teaching them.

20. EXACTNESS.

The general fault of home training is that it encourages inexactness and slovenliness. Being in close sympathy with the children, both parents and private tutors are apt to "understand what they mean," and to give them credit for meaning what is right, when what they have actually said or written is wrong. Never let a parent or private tutor give a child "the benefit of the doubt" in matters intellectual.

It also frequently happens that, having formed a somewhat too high conception of their pupil's mental ability, they do not like to make him go through the drudgery which is sometimes necessary to produce exactness. "Personally," writes Preceptor, "I believe I owe my inaccuracy as a mathematician (besides a general inexactness of mind in matters of detail) to the too kind indulgence of a private tutor who taught me Arithmetic. Not only did he yield to my importunities when I told him that I was sure I could never find out where my Long Division sum was wrong, but even when he had pointed out my error, he would never insist on my doing the sum again. I liked him very much at the time; but I bitterly dislike the results of his kindness now."

In a school, boys are more likely to be cured of little inexactnesses and eccentricities, because their work is constantly inspected along with that of other boys, and judged impartially by the same standard; but in a household this standard is absent, and must be supplied by the parents or tutors unaided. Let it be, therefore, taken as a motto for home training that the teacher is to be "careful about small things." Parents, even more than class-teachers, must set their faces against the common excuse of careless children, "It was only a slip, I knew better."

21. ADAPTATION AND VARIATION.

Yet regularity and exactness in home teaching are not inconsistent with some variation of lessons, adapting them to the special needs and stages of the pupil's development. Lessons cannot be thus flexibly adapted in class-teaching, because what may suit one pupil may not suit another. In a school it is necessary for a class-teacher to consult the interests of the greatest number, slightly sacrificing the very dull, and still more the very clever, for the sake of the commonplace majority, and endeavoring to compensate the two extremes by a little extra attention out of class. But it is one of the greatest advantages of home teaching that both the clever and the dull, and the different stages of progress in the clever and the dull can be specially considered, and the teaching correspondingly adjusted.

1. Sometimes when a child is approaching a critical point in a study, manifesting a great interest in it, and making rapid progress, it is well to take advantage of this tide and to increase considerably the amount of time given to that study, at the expense of others, so as to float the child over the obstacle which but for this effort might else have kept him for some time stranded and stationary.

2. When a child is growing dispirited and discouraged with the feeling that he is making no way in some study, and is perhaps falling into the habit of doing his work in an inferior manner, it is well to drop that study altogether for a time, returning to it after he has had time to forget his discouragement and to break himself from his bad habits.

But in such a case the teacher must take great care that the child shall not feel that he is desisting because of failure. With a little tact, this can easily be arranged. The child's last lesson can be made so easy or can be so carefully explained, that it shall be in some sense a success, at least as compared with previous lessons; and after he has been praised, so far as he honestly can be, for at last overcoming his difficulties, the teacher may announce his intention of putting by the book for a time.

3. When the child returns to the subject, the teacher must use all possible art to make the first few lessons completely successful. By dividing the subject into very small parts, by careful and constant revisions, by conversations familiarly eliciting the child's difficulties and preparing the way for overcoming future difficulties, the teacher may, and indeed must, *force* the child to know his first lesson, so that he may make a fresh and more hopeful start.

4. Here a caution may be useful. *The teacher must never make any, even the slightest variation of lessons in answer to a pupil's request.* To do this would be to shake the child's confidence in his teachers, making him uneasy, unsettled, self-introspective, and conceited. Should the child, therefore, make any such request, he must be refused with some abruptness, and be taught not to repeat it. None the less, the teacher should make mental note of the pupil's state of mind, and accept it as a proof that things are not going satisfactorily, and that some change must be soon made.

But if a child who has been long under our training expresses a desire for a change, we ourselves must be somewhat in fault. For we ought to have ascertained the pupil's flagging interest from its natural signs, without waiting till it was expressed in definite words. Out of school hours, too, while talking to the child, not as master, but as friend, a tutor may easily find out the childish likes and dislikes, troubles, difficulties, and successes. And of course these opportunities are still more accessible to parents.

5. As the child should occasionally have easier tasks, to inspire him with hopefulness and self-reliance, so should he occasionally have more difficult tasks, to test and invigorate his powers, and to put him on his mettle.

22. THE TRANSITION FROM PLAY TO WORK.

Almost all children learn for some time, not as a work, but as a pleasure. It must be left to the teacher's discretion to decide when he should first mention the words "work" and "lessons," and how long he should continue to treat learning as an amusement to his pupils.

Much will depend upon their age and temperament. If they are old, and not very docile, "work" will have to be brought to the front, and clearly distinguished from play, that they may no longer delay to form habits of obedient and regular industry, and may learn to bend

before they grow too stiff. It is not well with such natures to defer long the awkward and critical transition which takes place when the pupil has to be told plainly that the occupation which he has been hitherto pursuing as an optional amusement, he must now pursue as a compulsory task.

On the other hand, for young, docile, and lively pupils, the gain is great if learning remains, as long as possible, a pleasure and a privilege. Progress is thus far more rapid, and the child acquires one of the most valuable of habits—the love of knowledge.

This transition may be smoothed by a little preparatory conversation in which the dignity of “school” is held out as a prospect for the boy when he grows a little older; some children may also be influenced by being told that, if they work, they will be able to help their parents, and to be of use to their brothers and sisters; and the power derived from certain kinds of knowledge may be illustrated by stories which may afford a useful stimulus. But, in most cases, the knowledge that his parents and elders have to work, and that work of some kind is expected from every grown-up person worthy of respect, will be sufficient, when combined with the love of approbation, to make any child tolerate patiently, or even accept with some degree of pride the necessary irksomeness of work.

For let this be distinctly understood by the teacher, and let him, when the time comes, not fail to make his pupils also understand, that work must be at times irksome. Mental, like bodily labor, must sometimes task and strain the powers, though it should never overstrain them. The intellect is like the body in requiring the alternation between wholesome strain and wholesome relaxation, if it is to become healthy and robust.

23. INTRODUCTION AND GUIDANCE.

Before beginning to teach any subject, the teacher should endeavor to excite the pupil's interest by conversations and stories illustrating the utility of it. Reading is, nowadays, so obvious a necessity that stimulus in this study is less needed than in others. Otherwise it would be easy to multiply stories about savages who have so marveled at a “speaking paper” that they have worshiped it as a god; or about boys and men who, in modern times, have been helped by ability, or harmed by inability, to read.

Similarly, as a preparation for Arithmetic, stories may be found, such as the well-known one in *Sandford and Merton*, about the horse-dealer who offered to take for his horse (since the rich gentleman objected to the price) one farthing for the first nail in the horse's shoe, two farthings for the second, four for the third, eight for the fourth, and so on, doubling the number every time, there being only twenty-four nails in all; and how the gentleman willingly assented to this arrangement, till he found that he had pledged himself to pay more

than seventeen thousand four hundred and seventy pounds. Under the heads of the different studies, hints will be hereafter given as to the best means of giving preliminary stimulus.

When the pupil has begun a new subject, he must not, at first, be left to himself. It is not with book-tasks as it is with nature-tasks. Books do not supply (as Nature often does) the means of experimenting, of varying the aspect of the subject, and of obtaining new materials to reason about. Consequently, if a child cannot make out a book-task, he either gives it up as hopeless, or becomes fretful, dispirited, and listless; or else he dashes at some wrong conclusion, and contracts the habit of "plunging." At first, therefore, everything in a new subject must be done by the child under the supervision of the teacher.

Not that the child is to be *told* everything. This would be fatal to his self-reliance and progress. Nor that he is to be permitted to make no mistakes. This would be going against Nature's method of teaching by correction. But the tutor's business will be in the course of each lesson to secure the observance of that Golden Rule of teaching which interchanges easy tasks with difficult ones, at once encouraging self-reliance and discouraging conceit, sustaining interest and developing the understanding.

Although the teacher must be prepared to give much time and trouble in the introductory lesson, or lessons, of each subject, he must nevertheless not lecture, he must converse. But the guidance of the dialogue will require almost as much preparatory thought as a lecture. Not a word must be retracted (unless deliberately, see § 30) and, above all, no confused impressions must be given. It would be better that the pupil should receive a clear erroneous impression—which can afterwards be clearly proved to be false, and removed—than two or three impressions, each more or less true, and each inconsistent with the others.

N.B.—If the teacher cannot spare the necessary time for this preparation, he must not attempt to eke out the deficiency by giving his pupils tasks out of a book to prepare without supervision. Let them play. They will be far better employed in playing than by learning slovenly habits of thought or practice under the appearance of working.

24. READING.

Reading may be conveniently begun in the late autumn and continued till the early spring, when it may be dropped, or at all events lightened, to be taken up again and perfected in the following winter. The advantage of this course is, that during the long evenings, when the child cannot be playing in the open air, the reading-task finds him at greater leisure and (for want of other things to do) he is likely to welcome the study as a variety of occupation.

If children are in the country and can find plenty to do, reading

may perhaps be deferred till six; otherwise it may be begun at five, or four; and there have been not a few cases where it has even been begun at three, without apparent disadvantage. But so early a commencement requires watchful care on the part of the teacher, that the lesson may be given up when it appears to cause the slightest uneasiness or strain to the child.

It is now a recognized principle among teachers that children *must not be taught or allowed to spell before they read*. Reading must be taught first, spelling afterwards.

In teaching reading, the right plan is to begin, not with letters, but with syllables, such as *cat, can, cap, sit, fit, pit*, and the like, which the child must be taught to pronounce and remember, as syllables, without any regard (*at first*) to the letters *c, a, t, n, p*, etc., composing them. The system has this obvious advantage, that it is freed from the contradictions attending the alphabet or spelling-system. When a boy is told that *a* is called *ai* (as in *pain*), and yet that *c, a, t* spells *cat*—not *cait*—he is plunged at once into difficulties that should be deferred as long as possible, I mean, the anomalies of English pronunciation. “All the bad readers whom I have ever had to do with,” says Preceptor, “have learned reading on this bad system; and whenever I hear a big fellow of ten or eleven stumbling over hard words, I always put my ear close to him and catch him spelling.” The new system, which is sometimes called the Look and Say system, avoids the stumbling-block of the alphabet.

A great number of good reading-books are now in existence based upon the Look and Say, or (as it might perhaps be better called) the Syllable principle; but the use of them requires some discretion in the teacher, for the following reason. Some of the more modern books on this system, being adapted for teaching children in large classes, are very properly intended to suit the dullest of the dull; and they consequently introduce a vast amount of drill by repeating variations of syllables, whether they have, or have not, any existence in our language, e. g. *badge, cadge, fadge, madge, dadge, sadge*, etc. Now all this, though it may be necessary, and not perhaps very tedious for a slow, steady, but somewhat dull boy, may be unnecessary, tedious, and even irritating for a quick and lively one. Again, other reading-books, of a somewhat earlier date, good in other respects, may be a little deficient in syllable-drill.

The best plan for the teacher at home will be to use one of the more rapidly progressive reading-books, yet not to trust entirely to it, but to reinforce it by *writing (of course in printed characters) in the margin of the reading-book, little supplements, from time to time introducing the child to new syllables*. However excellent and stimulating the book may be, the child will generally be more stimulated by these additions than by the original text; and though he may not be called on for some time to write or print on his own account, he is unconsciously being prepared for learning how to do so by watching his tutor print.

It is absolutely necessary that the child should be taught to pronounce words apart from their context as well as to read them in their context. Otherwise he will read by rote, trusting to his memory, and will make little progress in distinguishing syllables. "It is surprising," says Preceptor, "to what extent the powerful memory of the young will impose upon a teacher, and still more upon an inexperienced Examiner, in this matter of reading. I remember that in a certain Elementary school—this was in the old days when books were 'set' for examination, and there was no reading at sight—a boy passed with flying colors, although he could not read at all, or (to put the same fact in the shape in which the teacher expressed it to me) he could read just as well with the book upside down as in the ordinary position."

After a few lessons in reading supplemented thus by the teacher, the child may be taught the sounds of the consonants, pronouncing them, however, not in the ordinary way with vowels, *ess*, *tee*, *eff*, etc., but as the mere beginnings of sounds, *s* being a mere hiss, and *f* a sound of the teeth against the lips, *s—*, *f—*. Those consonants which sound differently before different vowels should not be taught by themselves; for example, *c* must be taught at first, not by itself, but as part of *can*, *cat*, *cane*, *car*, *care*, and then in *cot*, *con*, *cone*, *cod*, and in *cud*, *cut*, *cub*. Not till he is familiar with these words, and on the point of passing to words of two syllables, should he be introduced to *cell*, *cent*, *cit*, *cite*, and be told to distinguish between the soft sound of *ce* or *ci* on the one side, and the hard sound of *ca*, *co*, *cu* on the other. The same of course applies to *g*.

Most unfortunately, reading (which is almost necessarily the first subject in which a child receives special lessons) cannot proceed far without bringing the pupil into contact with the anomalies of English pronunciation, which constitute a sad stumbling-block in the way of definite and logical teaching. The reading-book should certainly avoid these for the first few lessons; and the teacher should freely alter any words in the text-book, however simple in themselves, which seem to introduce such anomalies too soon (*e. g.* the word *put*, which is anomalous for a child hitherto accustomed only to the sound of *u* in *up*, *sup*, *cut*, etc.).

"I am not sure," writes Preceptor, "whether the plan of thus altering the book and substituting a new word—'because this word is pronounced *pút*, and you are not yet accustomed to that sound'—is not as stimulative a way as any to induce a child to remember the exceptional word; for many children (of the quicker sort, at all events) are exceptionally stirred to remember, and to prove that they can remember, facts that are said to be 'too difficult' for them. If also a list is printed by the tutor for the child containing anomalous words thus 'put aside for the present,' they will be the more easily recollected; and in due course no difficulty at all will be found in them when the pupil meets with them in a context which helps to make them intelligible."

The transition will be easy from words of one syllable to words of two. *Cannot* presents very little more difficulty than *can-not*. The few abnormal final syllables, such as *-ble* and *-tion*, will be soon mastered, not by themselves, but by being repeated in such words as *stable*, *a-ble*, *ca-ble*, *fa-ble*; and then all will go smoothly.

The home-teacher will do well to beware of "books written in words of one syllable." *Sandford and Merton* and *Robinson Crusoe*, tortured into monosyllables, are sure to contain passages in a tedious or inexact style; and to turn good English into bad is neither justifiable nor necessary in order to teach beginners how to read.

A great deal more may be done than is customary in the way of teaching children to read with modulation and distinctness. No doubt some have naturally a better voice and a keener sense of rhythm than others; but all can be kept from drawling and droning if they hear people about them read and speak well, and *if they are accustomed from the first to read as they speak*. No boy drawls or drones in the playground or the nursery.

Drawling, like all other unnatural reading, is caused by reading aloud what one does not understand or enjoy, or by hearing others drawl. The remedy against it is, first, to see that the child can understand and enjoy his earliest reading lessons; second, to prevent the child from ever hearing bad reading.

In order to produce a habit of natural reading there should be interspersed several short questions and answers in the early reading exercises, because in familiar dialogues it is more easy for a child to read naturally, that is to say, as he speaks, *e. g.* "Can Tom see me now? Yes, Tom can see me, and I can see Tom." The teacher should for some time to come read every passage aloud before the pupil reads it. Grant that the pupil may sometimes be hereby led to trust to his ears, recalling what the teacher has read, rather than to his eyes, examining the syllables before him; yet this danger is slight compared with that of falling into an artificial monotone, by stumbling over the passage unassisted, pronouncing it without intelligent appreciation.

It is one of the greatest advantages of home-training over class-training for young children that reading can be taught much more easily at home than at school. In a class, bad readers must necessarily sometimes be "put on," and their bad reading drags down the rest of the pupils. For as in stammering, so in reading, children are wonderfully and unconsciously imitative. At home the child need never (it is to be hoped) hear any but good reading, and may thus, by unconscious imitation, acquire a good style. At school to read with any taste or feeling is often so rare, that the boy who is guilty of it is voted a "prig" by his schoolfellows, where the standard of reading does not happen to be unusually high. It cannot be too often repeated that no child (in whom the organs of speech are duly developed) will read badly if he is well taught and does not hear bad reading. But it

should be added that children are more prone to imitate bad reading than good, and that the hearing of a very little bad reading goes a long way to prevent the formation of the habit of reading well.¹

Defects of utterance require special treatment. Very little attention can be paid to them at schools; but by parents and tutors a great deal could be done by practicing a child regularly in the sounds in which he is deficient. For example, if he does not pronounce the dentals distinctly he may be exercised daily in repeating a list of words, such as *tender, delicate, splendid, dutiful, dusty, tattered and torn*, etc., having first pronounced the initial sounds—*t* and *d*—several times; and so of other sounds.

25. QUESTIONING ON READING.

In order to accustom the pupil to remember what he has read, a few simple questions should be asked, bearing upon each reading lesson, even upon the first.

The questions should be varied in two ways. Thus, supposing the reading lesson says, "The cat is on my bed," the question may be put first as an *ellipse* (to use the term employed by Stow). "The cat is on —?" and the pupil fills up what is wanting—"my bed"; secondly, it may be put as a question for information. "Where is the cat?" "On my bed."

Later on, pupils will find in their reading lessons expressions that require explanation; and then the teacher will need a knowledge of the art of explaining. The best explanation is that in which the teacher tells the least and elicits the most. For this purpose he must avoid lecturing and keep close to dialogue, putting before his pupils some facts which they know, that he may lead them to understand some fact which they do not know. What we know, as children, is, for the most part, what we can see; and therefore this process of teaching is called by Stow "picturing out," because, by it, the teacher and pupils together depict or represent things unseen by things seen.

Although Stow spoke of this system as new, it is in reality the basis of all teaching by parables. The Parable of the Sower, for example,

¹ If it had not been a principle of this book that it should contain as little as possible that the Author had not tested by experiment, another method of teaching reading would have been described at some length.

This method would *begin with sounds, and then proceed to syllables*. Thus, the teacher would make the child pronounce the initial *p—, b—, f—*, (not with vowels, but merely as initial sounds,) and then set down on the black-board the printed symbols. Next he would make the child pronounce *at, it, et*, and afterwards set down these symbols. He would then make the child pronounce *p, b, f* before the *at, it, et*, and when the child had done it he would set down *pat, pit, pet, bat, bit, bet*, etc., in each case beginning first with the child's experiences and needs before proceeding to satisfy the needs.

This, which may be called the Oral or Extempore system, could very soon be replaced by a book; "but," says Preceptor, "I feel sure it would be found a far more stimulative introduction to reading than could be supplied by any text-book." He adds, however, that he himself has never seen it tried except in the process of teaching the deaf and (so called) dumb to read aloud.

“pictures out” the unseen operations of good and bad visible influences. “Picturing out” is indeed the basis of all metaphor, and of a large part of all language. When we speak of a thought, for example, as impressive, we “picture out” the operation of the thought by saying that, as a seal impresses itself on wax and leaves a mark behind, so a certain thought imprints itself on our mind, and leaves behind a copy of it which we cannot see with our eyes, but can none the less remember.

Recondite though these considerations may appear, the principle and practice of “picturing out” must be thoroughly mastered by every teacher before he can consider himself qualified to explain even the simplest difficulties of language to the young. Without this key all explanations are sure to be unsystematic, vague, and pointless, and are likely to be either unintelligible or inadequate. With it, any metaphor can be explained, provided the child is familiar, or can be made familiar with the visible facts on which the metaphor is based.

26. WRITING.

Before learning to write many children may with advantage be allowed to print. Any slight disadvantage arising from the danger of falling into a style incompatible with flowing handwriting, may be obviated by careful attention subsequently, when the child begins to learn the latter; and the stimulus may be useful, not only because it shows the child at once the use of his new acquirement, but also because it teaches him to spell.

In order to teach the child to write well, he should not be allowed to write “small hand” till he has gone through a sufficient course of “large hand”—sufficient to teach him the proper shaping of the letters. In “large hand” defects are much more easily detected than in small. Children naturally prefer the latter as being easier and “more advanced”; but if they are to write well their wish must not be gratified till a good style of “large hand” has been formed.

“Copies,” in which the letters are printed in red or brown ink, over which the pupil has to write, are to be used for a longer or shorter time, according to the pupil’s progress. The assistance is to be lessened gradually; but care must be taken that the pupil does not dispense with assistance too soon. The teacher may sometimes advantageously supplement the printed copies by tracing the letters himself to be covered by the pupil.

It is most important in writing that the child should not *repeat errors*. When looking at a boy’s copy-book, you will frequently find a mistake scarcely perceptible in the first line, slight in the second line, more marked in the third, and grossly wrong in the fourth and following lines. To obviate this, the teacher should be on the watch to mark with a red pencil any error; and the pupil should not be allowed to write more than one new line until the teacher is satisfied that the error is not repeated.

It is not now thought necessary to inculcate minute directions for holding the pen; but stooping, putting the tongue out and the head on one side, and other constrained and unnatural attitudes should be noted and forbidden at once.

If the teacher requires written exercises in grammar, dictation, etc., at a time when the pupils are in the early stage of writing, he must give up the hope of their acquiring a rapid, legible, flowing hand of the best kind. It is, therefore, sometimes a question whether the handwriting must be to some extent sacrificed to the general progress of the pupil, or the progress to the handwriting; and circumstances must determine how that question must be answered. But, in any case, neatness may be ensured.

In all writing lessons, the light should enter from the left, so that the shadow of the writer's hand may not darken the paper on which he is writing.

27. DRILLING, SINGING, DRAWING.

It does not fall within the province of this work to do more than mention these subjects. For the methods of teaching them the reader is referred to the works of specialists. But they are mentioned here because, when we are beginning to train the mind and understanding systematically, it seems well to take in hand also the systematic training of the body and the senses, so that the whole nature may be systematically developed.

Drilling, more especially, is useful as a counterpoise to the sedentary studies of reading and writing. But drilling cannot be taught at home except under great disadvantages, as the simultaneous movements of large numbers contribute greatly to the spirit, liveliness, and efficiency of drill. In a town it is better to combine the children of two or three families for drill, or to send a child to a drilling class.

In cases where a child is becoming precociously fond of books and given to sedentary pursuits, it is well—especially where there are no brothers and sisters—to send him to a Kindergarten for the sake of the drill, singing, and sense-training, and to forbid all home work.

28. SPELLING.

The child who has learned to read in the right way, that is by syllables, will be generally found utterly unable to spell when he is for the first time asked to write down the simplest word. He will at first confuse *pin* and *nip*, *ten* and *net*, *nap* and *pan*. On a moment's reflection the reason is obvious. He has from the beginning learned syllables, not separate letters; and even though he may have picked up the names of the letters, still he has never needed to arrange the letters of a syllable in their proper order.

This inability may at first disappoint a young teacher, but there is no cause for disappointment. The pupil will rapidly learn the art of spelling as soon as he learns the art of writing; and until he learns how to write he has no need to learn how to spell.

Some teachers lay great stress on the oral teaching of spelling, but the anomalies of our English pronunciation make it a preferable course to trust for spelling rather to the eye than to the ear. The best means for teaching spelling are (1) not to let the pupil write much at first from dictation; (2) to encourage the child to read for himself (for it is familiarity with the sight of words that is the main help here); (3) to make him copy passages from manuscript or print; (4) to enlarge his spelling vocabulary from time to time by writing down on the black-board a new word, and by bidding him write three or four sentences immediately of his own composition, introducing this word; (5) whenever the teacher is intending to dictate a passage, he should first write down on the board any words that may be reasonably expected to be unfamiliar to the pupil, rubbing them out before the dictation commences.

The object of all these rules is the same, it is *to prevent the child from ever spelling a word wrongly*. Once let a child spell "beleeve," and you will have thrice as much trouble in teaching him how to spell "believe" as you would have had if you had never let him spell it at all till he could spell it correctly. A child is, if possible, *never to have had two impressions of the spelling of a word*, because two impressions will result in one blurred impression. He is never to *think* about spelling. If he needs to pause at all, he must write the word down, and see how it *looks*.

A little oral teaching may be useful at first while the child is learning for the first time to distinguish letters from syllables; *p, i, n*, pronounced aloud, will be more readily distinguished from *n, i, p*. And it may be useful to make him spell aloud (1) a certain number of the more anomalous words, in order to show him the similarity of the sounds represented by the same letters, *fought, sought, bought*; (2) a certain number of words of the same sound with different meanings, *due, dew, sea, see*, each of which should be immediately introduced into a sentence composed and written by the pupil.

Rules in spelling are of very little use. The only one of much value to beginners is that, where the sound "eeve" is preceded by *c* it is spelt *ceive*; but this still leaves the beginner open to mis-spell *leave, believe, sleeve*.

"For older pupils," says Preceptor, "who know something of the history of English, it is sometimes useful to be reminded that the anomalies of (1) *exceed, proceed, succeed*, (2) *precede, recede, concede*, are to be explained by the fact that the former words entered our language through the French (the French *é* being altered into *ee*, as in '*agreeable*') whereas the latter, coming to us directly from the Latin, retained the Latin spelling." But such a rule would be only useful for those who have a considerable acquaintance with the English language and literature; and in English spelling the only really useful rule is that "there are no rules."

29. PUNCTUATION.

Correct reading is, of course, almost necessary as a preparation for correct punctuation; for punctuation implies pauses, and if a child makes no pauses in reading, he is only consistent in making no punctuation in writing. As soon, therefore, as a child begins to read, he should be taught the use of stops; and the best stop to begin with is the note of interrogation, because it necessitates a marked difference in the modulation of the voice.

The pupil should then be shown, by instances, how much the meaning may be altered by the omission of stops and capital letters. Abundant examples may easily be constructed, one or two of which will suffice.

(1) "At what time will you come to-morrow?" is entirely different in meaning from "At what time will you come? To-morrow?"

(2) The use of the full stop and comma may be illustrated by the difference between "We dined at six o'clock. Half-an-hour before, most of our guests had arrived," and "We dined at six o'clock, half-an-hour before most of our guests had arrived."

Occasionally the teacher may give his pupils unpunctuated and ambiguous sentences of this kind, which they are to punctuate in more than one way, if possible, so as to produce different meanings. But these exercises should be sparingly used, partly lest they should bewilder a child who may not be able to make satisfactory sense out of the unpunctuated passage, partly lest they should habituate him to the absence of punctuation. More will be gained by insisting on punctuation whenever a passage is copied from a book or manuscript, and afterwards taken down from dictation. And here let the teacher watch the child while writing, and see that he does not write the whole passage first and *put in the stops afterwards*. This slovenly habit is fatal to true appreciation of punctuation; but children constantly fall into it because they do not like to interrupt their writing by stopping to punctuate. But they must be taught that it is impermissible thus to write down mere words, without sense, or with the wrong sense. They are to write down sentences, not words; and sentences require punctuation.

For want of early training in this simple subject children grow up to youth, and youths to manhood without a knowledge of it; and there are many fairly educated people who use commas scantily, and inverted commas never, with what occasionally disastrous consequences may be readily imagined.

30. NUMBERS.

Elementary arithmetic may be taught very early, say at four or five years old.

It should be taught experimentally, first by means of the fingers, then with an abacus, chess-board, marbles, tin soldiers, counters, or other devices for representing numbers by concrete objects.

These helps, however, should not be retained too long; and it is important that, from an early stage, the child should be familiarized with more than one kind of these concrete representations. It is not well that a child should be able to tell that 5 and 3 are 8 on his abacus, but not with marbles or counters. By discovering that 5 and 3 are 8, whether on fingers, or abacus, or on chess-board, or in marbles, he is more easily prepared to see that 5 and 3 are 8 universally, and thus to dispense with concrete assistances.

Before passing beyond the first ten digits, he should learn addition and subtraction within those limits, discovering that 5 and 3, or 3 and 5, make 8; 3 from 8, 5: 5 from 8, 3, etc. He may even be introduced to the rudiments of multiplication by discovering that 4 and 4 make 8, and that this is the same thing as saying that 2 fours make 8; that 3 twos make 6, 4 twos make 8, 5 twos 10.

When the child begins to learn the numbers above ten on the abacus, he ought to be made at once to understand the *Law of Recurrence*.

The numbers after ten may be described to him, at first, as "one and ten," "two and ten," "three and ten," "four and ten," etc. Afterwards those may be shortened into "one-teen," "two-teen," "three-teen," "four-teen," "five-teen," and he may be left for a few days with these names, till he is casually told by his teacher that "one-teen" is commonly called "eleven," "two-teen" "twelve," and "three-teen" "thirteen." Not the least inconvenience will have been experienced from the little piece of un-learning; and the child will have had impressed on him the law of recurrence in a manner most likely to bring it home to him.

Similarly, as regards numbers after "nine-teen," he should be told that the number following nineteen ought to be called "twice-ten"; but to distinguish it better from "two and ten," "ten" is changed into "ty," and it is called "twice-ty," "twain-ty," or "twenty"; and in the same way "thrice-ten" is called "three-ty," or "thirty," and so of the rest. The child will probably soon forget these disused names; but some result of them will remain in the sense of law, and in the feeling that "there is a reason for things"—a very valuable acquisition for a young arithmetician.

For the purpose of illustrating the recurrence in the names of the numbers, the abacus is preferable to any other device, because it can easily be made to exhibit them in rows of tens, one row below the other. Looking at these rows, the child can see at a glance how the facts correspond to the names; and he may be taught not only to count horizontally, 1, 2, 3, 4, 5, etc., but also vertically, thus, four, four and ten, four and twenty, four and thirty, etc.; one, one and ten (or eleven), one and twenty, one and thirty, etc.

31. FIGURES.

Symbols should now be introduced, in order that the child may begin to construct his own tables. Having written down naught and the first 9 digits, you say, "Now we have no more signs to use. How then can we write the larger numbers, such as two and ten, three and ten, four and ten? We must repeat the old signs. For example, to write three and ten, or thirteen, we can set down 3 for the three, and 1 *on the left hand side of the 3, to represent a single ten* (13). Similarly to represent two and ten (or twelve) set down 2 for the two, and 1 *on the left-hand side of the 2, to represent a single ten* (12); and to represent one and ten (or eleven) set down 1 for the one, and 1, *on the left-hand side of the one, to represent a single ten* (11).

"How do we know, in the number 11, which of the two 1's represents a ten? By remembering that the figure on the right hand always stands for *ones*, and the figure on the left of it for *tens*.

"But now how shall we represent ten itself? If we put down 1 by itself and say 'that shall stand for ten,' we shall not be able to remember when we see it afterwards whether it means one or one-ten. How then can we distinguish between them? Thus, by calling it 'naught and ten,' and writing down (just as we did 'one and ten,' 'two and ten'), 0 on the right hand for naught, or nothing, and 1 on the left hand for the ten."

The explanation of 10 will be the only point that need present any difficulty; the subsequent explanations of 23, "as meaning three and two tens," 34 "as meaning four and three tens," etc., will be found comparatively easy.

As for the hundreds, the pupil will not find it hard to see that we must "begin again" a second time when we reach ten tens, writing down 0 for the ones, and 10 *on the left-hand of the 0, for the tens* (100). He may then be taught to write down "ten tens and one" (101), ten tens and two (102), etc., and finally be told that ten tens are called one hundred; so that 100, instead of being described as "no ones and ten tens," may be described as "no ones, no tens, one hundred."

The child must now be practiced in reading numbers of three figures forwards and backwards, thus: 234, two hundreds, three tens, four ones (or units), or four ones, three tens, two hundreds. And, in the following lessons, this exercise of reading small and large numbers forwards and backwards must be constantly recapitulated.

32. TABLES.

Hitherto the child must not have been allowed to write figures for himself, but must watch the teacher make them at the pupil's dictation, and the teacher must take great pains to write them in precisely the way in which he would like the pupil to write them. For the purpose of uniformity in figure writing, the paper should be divided into

equal squares of a good size; for it is no less important for good figures than for good writing that a child should begin with "large hand." At this stage the child may be permitted to write down a few figures for himself, under close supervision, that he may construct his own "Tables."

He should begin with Tables of Addition of numbers under 10; and Tables of Subtraction should be constructed at the same time, thus:

7 and 6, 13; 6 from 13, 7; 7 from 13, 6.

The teacher should note what parts of these Tables appear to be most difficult for the pupil to recollect, and should practice him specially in these, making him impress them upon himself by repetition and writing, so that he may learn them by heart. He ought not to be allowed to go far in Arithmetic till he can add *without pausing to think*, and of course he must not now be allowed to use fingers, or the assistance of the abacus. The latter may still be allowed in experimenting and making discoveries with numbers, but not for the ordinary purposes of calculation. In order that finger-counting may be discouraged, the pupil should for some time calculate *aloud, and in the presence of the teacher*. And just as in reading the pupil was not allowed to spell to himself, so neither must he count to himself; he must calculate, as he reads, on the "look and say" principle; and in answer to the question, "8 and 7?" he must reply at once, without either counting or thinking, "15."

Having committed to memory the statement that 8 and 7 make 15, the pupil must be asked, What do 18 and 7 make? From the abacus he ascertains, and writes down 25. What do 28 and 7 make? From the same source he writes down 35. What 38 and 7? 45. What 48 and 7? 55. The teacher must continue these questions till he *forces* the pupil to discover for himself that his formula, "8 and 7 make 15" will always help him to determine the *unit* figure of the result when two figures are added together of which one ends in 8, the other in 7. The same process must be repeated with 7 and 6, 17 and 6, 27 and 6, 6 and 7, 16 and 7, 26 and 7, etc. Thus the pupil will learn to add with rapidity numbers under 100 to numbers under 10.

He is now in a position to construct for himself Tables of Multiplication. But first he should receive a little stimulus to urge him to undertake his new labor with zeal. Tell him to make ten heaps of marbles, 7 in each heap. And how many do they make altogether? "I must count." "Well, count, then; but I will write down the number on a piece of paper, which I will fold up and give to you; and see whether I am not right." It makes 70. "Yes, you are right. Then ten heaps of 7 marbles make——?" Seventy. "Seventy what?" Seventy marbles. "And ten heaps of 7 nuts would make——?" Seventy. "Seventy what?" Nuts. "And ten heaps of 7 ones, or units, make——?" Seventy units. "Then we will say that ten sevens always make——?" Seventy. Having repeated the process with ten

heaps of 8, of 9, of 6, of 5, etc., you force the pupil at last to discover the law, which he would express in his own way by saying that "ten times a number make that number with —ty at the end."

This short cut is so charming to a child that it is well to leave him to enjoy it for a time without further observation; but in the next lesson, asking him what 70 means, and receiving the answer, 70 units or 7 tens, you thereby show him that the new rule tells us that ten sevens are the same as seven tens; and this he may verify at once for himself by his marbles. In the same lesson you may teach him "eleven times" in the same way, by experiment. The advantage of thus beginning with "10 times and 11 times" is that you at once show a boy the manifest utility of his new knowledge, and at the same time give him *something to learn which he cannot fail to remember*.

After this stimulating foretaste you must now proceed methodically to show him how to construct tables of Multiplication by means of Addition. And here the main business is that the pupil may not be discouraged by the prospect of the burden of committing so great a mass to memory. For this purpose it is expedient not to form the whole of the Tables at once. And before he begins to learn any portion by heart, very often a few remarks of the teacher may help to lighten the labor. For example, in learning "twice," you may show him that he is only repeating in a new form what he has said before in his Addition Tables; for "twice 9 are 18" is the same thing as saying that "9 and 9 make 18." Again, when he comes to learn the more advanced Tables, *e. g.*: "7 times," the child may be shown that he has already learned 7 times 2, 7 times 3, etc., up to 7 times 6, in the previous Tables, so that a good deal of the apparently new work is really repetition of old work.

But when all is done that is possible in the way of help, the task of committing the whole to memory has to be faced; and the truest kindness is to see that the child learns the whole at last, without trusting in any kind of external aid, such as *Memoria Technica*, or anything else. There is no reason, however, why the teacher should not resort to any devices that may facilitate the process without impairing the result. "Children," says Preceptor, "are so constructed that they (and perhaps their elders as well) more easily remember what they take in indirectly with unconscious interest, than what they try to remember with a conscious strain. Very often a child will remember 8 times or 9 times better if he is allowed to write it out or print it in large colored figures; or should he find a difficulty in remembering some particular formula, *e. g.* $8 \times 9 = 72$, very often you may stamp it on his memory by some irrational jingle, such as:

"This rhyme is mine, and strictly true,
That 8 times 9 are 72."

But our object is that the child should repeat the Tables without stopping to think about rhymes—especially when, as in this instance,

the rhyme will mislead, if one number, *e. g.* 7, be substituted for another, *e. g.* 8. As a rule, the pupil must depend upon practice and repetition, oral and on paper, for the mastery of the Tables. But Preceptor's hint about writing out and embellishing those Tables which present most difficulty, may very likely be found useful.

As soon as the pupil is pretty familiar with the Multiplication Table he should be taught to repeat the corresponding Division Tables, *e. g.* five times six is thirty; fives into thirty, six; sixes into thirty, five.

But it may be well not to teach the Division Tables at first, lest they should break the "swing" of the Multiplication table, and increase the difficulty of learning it.

33. THE FIRST FOUR RULES APPLIED TO NUMBERS ABOVE A HUNDRED.

Before proceeding to apply the "four rules" to numbers above a hundred, the pupil must be practiced still more in reading symbols into units, tens, and hundreds, or hundreds, tens, and units (as above, p. 42), and he must now be introduced to thousands.

Coming now to the "first four Rules" applied to large numbers, we have to speak of the reasons for those Rules, or rather of the methods by which the pupil can be led to the Rules, as the result of his own experience. In every case, if possible, the pupil should be helped to discover a Rule for himself; but great care is necessary to avoid confusing him by proceeding too fast; or by using terms or phrases that he does not understand; or by assuming, as axiomatic, truths which he is not at present prepared to accept. If we can succeed in leading him to the Rules for Addition, Subtraction, and Multiplication, we may perhaps dispense with the process in Division, merely indicating it to him in the case of small numbers, and leaving him to take the rest on trust.

(i.) *Addition*.—The first lesson may be somewhat after this fashion:

"If we have two heaps of fruit, the first containing 5 currants, 4 strawberries, 3 plums, and 2 pears; and the second containing 4 currants, 3 strawberries, 2 plums, and 1 pear; and if we wish to add them together, so as to make the two heaps into one, tell me, what must we say the one large heap will contain? You cannot at once answer. Write down, then, in a line what the first heap contains, putting the fruits in order of size, the smallest fruit to the right, and the largest to the left. Write down what the second heap contains in another line exactly under the first line. Now draw a straight line below these, and below this straight line write down what the large heap will contain, beginning from the small fruit on the right."

2 pears,	3 plums,	4 strawberries,	5 currants.
1 pear,	2 plums,	3 strawberries,	4 currants.
<hr/>			
3 pears,	5 plums,	7 strawberries,	9 currants.

“Now suppose we wish to add together the numbers 2345 and 1234. Read out the first number, beginning with the ones”: 5 ones, 4 tens, 3 hundreds, 2 thousands. “Now the second”: 4 ones, 3 tens, 2 hundreds, 1 thousand. “Write them in two lines, in the same way in which you wrote down the heaps of fruit, putting the ones to the right, and add them together, beginning from the ones.”

$$\begin{array}{r}
 2 \text{ thousands, } 3 \text{ hundreds, } 4 \text{ tens, } 5 \text{ ones.} \\
 1 \text{ thousand, } 2 \text{ hundreds, } 3 \text{ tens, } 4 \text{ ones.} \\
 \hline
 3 \text{ thousands, } 5 \text{ hundreds, } 7 \text{ tens, } 9 \text{ ones.}
 \end{array}$$

“Now read out the result you have written down, beginning from the right”: 9 ones, 7 tens, 5 hundreds, 3 thousands. “Now read it out, beginning from the left”: 3 thousands, 5 hundreds, 7 tens, 9 ones. “Write it down in the ordinary way”: 3579.

Having had a little practice in sums of this kind, *in which the totals of tens, hundreds, etc., do not exceed nine*, the pupil must now be told to add two numbers in which the totals exceed nine, *e. g.* 237 and 958.

$$\begin{array}{r}
 2 \text{ hundreds, } 3 \text{ tens, } 7 \text{ ones.} \\
 9 \text{ hundreds, } 5 \text{ tens, } 8 \text{ ones.} \\
 \hline
 11 \text{ hundreds, } 8 \text{ tens, } 15 \text{ ones.}
 \end{array}$$

“Read out the result, beginning from the right”: 15 ones, 8 tens, 11 hundreds. “But 15 ones are the same as 5 ones and—how many tens?” One ten. “Then we can set down 5 in the column of ones, and carry the one ten to the column of tens, thus making 9 tens instead of 8 tens. Again the 11 hundreds are the same as 1 hundred and——?” 1 thousand. “We can therefore set down 1 hundred in the column of hundreds, and carry the thousand to the thousand column. Thus the result, beginning from the right, is——?” 5 ones, 9 tens, 1 hundred, 1 thousand. “Read it out from the left”: 1 thousand, 1 hundred, 9 tens, 5 ones. “Write it down.” 1195. The working may now be repeated more briefly thus, after writing “thousand,” “hundred,” “ten,” over the different columns:

Thousand.	Hundred.	Ten.	One.
	2	3	7
	9	5	8
<hr/>			
1	1	9	5

“8 ones and 7 ones are 15 ones; set down 5 ones and carry 1 ten; 1 ten and 5 tens are 6 tens; 6 tens and 3 tens are 9 tens; set down 9 tens; 9 hundreds and 2 hundreds are 11 hundreds; set down 1 hundred and carry 1 thousand.”

After a little practice in sums of this kind, with the headings of the columns thus set down, the headings may be dispensed with. But for some time it will be useful for the pupil to work sums aloud, the teacher setting down the figures, so that the pupil may unconsciously

learn a neat way of writing, and the teacher may detect any habits of inaccuracy, slovenliness, or failure to comprehend the arithmetical process.

(ii.) *Subtraction.*—In subtraction it is (or was) a common error to speak of “borrowing,” *e. g.* in subtracting 19 from 41—9 from 41 1, you cannot: *borrow* 10; 9 from 11, 2; now *pay back* 1 to the 19 1 in the lower line; 2 from 4 is 2. This is obviously an incorrect method of reasoning. For if you *borrow* 10 from 19, 22 you make it 9, and when you *pay back* the 10 to the 9, it becomes 19 again, not 29. The correct explanation of the process depends upon the truth that, *in subtracting one number from another the result is not altered if the same number be added to both.* This, therefore, must first be shown to the pupil as follows: “Subtract 5 from 9, what is the result?” 4. “Now add 1 to 5 and also to 9, and subtract 5 and 1 (*i. e.* 6) from 9 and 1 (*i. e.* from 10), what is the result?” 4. “Yes, the same as before. Again, if instead of adding 1 to each, you add 2, and then subtract 5 and 2 (*i. e.* 7) from 9 and 2 (*i. e.* 11), what is the result?” 4. “The same as before.” After this, you add successively to the two numbers 3, 4, 5, 6, etc., and elicit from the pupil that in each case the result of the subtraction is 4, *the same as before.*

“Then it seems that when I am subtracting one number from another, if I add the same number to both, the result of the subtraction is still——?” The same as before. “Repeat the whole sentence.” When I am subtracting, etc. “Try it for yourself, subtracting 5 from 8. Repeat the rule again.”

“We have now to subtract 19 from 41, and you will see the use of the rule you have just learned. Can you subtract 9 from 1?” No. “Then we will add 10 ones to the unit column of 41, and afterwards we will add 1 ten to the ten-column of 19; and the result of the subtraction will be the same as before. 9 ones from 11 ones leave——?” 2 ones. “Now add 1 ten to the ten-column of 19; what will that make?” 2 tens. “And subtracting 2 tens from 4 tens, we shall have——?” 2 tens. “The result then is twenty-two.”¹

Briefly, the process can now be gone through thus: “9 from 1, you cannot; add 10 above; 9 from 11 is 2; add a 10 below; 2 from 4 is 2.”

Of course in larger numbers the principle is the same; but the teacher had better not risk confusing the child by entering into further explanations. It may be quietly assumed that the same process is to be continued of adding 10 to the top line where needed, and then

¹ Another process consists in *shifting a ten* in the larger number, thus: 9 from 1, you cannot; shift a ten in 41 from the ten's place to the unit's place, making 3 tens and 11 units: 9 from 11, 2; 1 from 3, 2. This depends upon the truth that *a number (e. g. 41) is not altered by shifting its parts (e. g. 4 tens and 1 unit; 3 tens and 11 units).*

adding 1 to the next figure of the bottom line, by way of compensation.

But if a more than usually quick and intelligent child detects that in larger numbers you are not adding tens, but hundreds

11111	and thousands, you may explain the matter further to him
9999	thus, by an example, subtracting 9999 from 11111: "9 ones
1112	from 1 one, you cannot; add 10 ones to the one 1; 9 ones

from 11 ones leave 2 ones.

"But since we added 10 ones to the top ones, we must now add the same (*i.e.* 1 ten) to the bottom tens; 9 tens and 1 ten make 10 tens; 10 tens from 1 ten you cannot; add 10 tens to the 1 ten; 10 tens from 11 tens leave 1 ten.

"But since we added 10 tens to the top tens, we must now add the same (*i.e.* 1 hundred) to the bottom hundreds; 9 hundreds and 1 hundred make 10 hundreds; 10 hundreds from 1 hundred, you cannot; add 10 hundreds to the 1 hundred; 10 hundreds from 11 hundreds leave 1 hundred.

"But since we added 10 hundreds to the top hundreds, we must now add the same (*i.e.* 1 thousand) to the bottom thousands; 9 thousands and 1 thousand make 10 thousands; 10 thousands from 1 thousand you cannot; add 10 thousands to the 1 thousand; 10 thousands from 11 thousands leave 1 thousand.

"But since we added 10 thousands to the top thousands, we must now add 1 ten thousand to the bottom ten thousands; no ten thousands and 1 ten thousands make 1 ten thousands; 1 ten thousand from 1 ten thousand leaves no ten thousands."

If children could thus be practiced in working sums of subtraction aloud, they would be greatly strengthened in the power of realizing the meaning of figures and of reading them into words.

(iii.) *Multiplication*.—Let the pupil multiply 6 by 4, and note the result (24). Then let him divide 6 into any two parts (1 and 5, 2 and 4, 3 and 3); let him multiply each of the two parts separately by 4 and add the two products (4 and 20, 8 and 16, 12 and 12); and let him thus discover:

Rule I.—*When a number has to be multiplied, it makes no difference whether you multiply the whole, or multiply the parts and add the products.*

When the child has been led to the discovery of this law by experiments with small numbers, and has learned it by heart, we shall tacitly assume that it holds good for all numbers, and shall proceed to apply it to the multiplication of numbers above 10.¹

But first we must practice the child in multiplying tens together.

¹ Before beginning, we remind the pupil that twice 6 is the same as six times two: 7 times 4 the same as 4 times 7, and so on; so that, when two numbers are multiplied together, it matters not which is the multiplier and which the multiplied.

“Suppose I have to multiply twice a number by three times the same number. Twice 4 multiplied by three times 4 is——?” 8 multiplied by 12, *i.e.* 96. “Now alter the order of multiplying, and multiply twice 3 by 4 times 4; the result is——?” 6 multiplied by 16; I do not know this. “Using the rule just given, you can divide 16 into two parts, 10 and 6, and after multiplying them separately, you can add the results.” 6 times 10 is 60, 6 times 6 is 36; 60 and 36 are 96. “The same result as before; so that we see that if we have to multiply twice a number by three times a number, it makes no difference if we first multiply two by three, and then the number by the number, and then multiply the two results.

“Now let 10 be the number, and suppose I have to multiply twice 10 by 4 times 10; then the result will be the same, whether I multiply twice 10 by 4 times 10, or twice 4 by——?” 10 times 10. “That is by——?” 100. “And what is twice 4 multiplied by 10 times 10?” It is 8 multiplied by 100 (*i.e.* 800).

“In the same way twice 10 multiplied by 3 times 10 is the same as twice 3 multiplied by 10 times 10, *i.e.*——?” 6 multiplied by 100, or 600. “Hence you see we get a very useful rule.”

Rule II.—*If you have to multiply a number of tens by another number of tens, we can multiply the two numbers together as though they were ones, and then put hundred after the result.*

For example, “3 tens multiplied by 4 tens are 12 hundreds, or 1200; 4 tens multiplied by 5 tens give——?” 20 hundreds (*i.e.* 2000).

Required to multiply 13 by 24.

Here, by Rule I, instead of multiplying 13 by 24, we may multiply 13 first by 4 and then by 20, and, if we add the products, the result will be the same. Again, instead of multiplying 13 by 4, we may first multiply 3 by 4, and then multiply 10 by 4, and the results will be the same.

We proceed, therefore to multiply 13 by 4 and by 20, and we begin with 4: 13 multiplied by 4 is (by Rule I) the same as 3 and 10 multiplied by 4; 3 multiplied by 4 is 12 (*i.e.* 2 units and 1 ten);

13	set down 2 units, and “carry” the 1 ten; 1 ten multiplied by
24	4 is 4 tens, which, with the 1 ten “carried,” makes 5 tens.
52	Having multiplied 13 by 4, we have now to multiply 13 by 20
260	(<i>i.e.</i> 2 tens); 13 multiplied by 2 tens is (by Rule I) the same
312	as 3 and 10 multiplied by 2 tens; 3 multiplied by 2 tens is the
	same as 2 tens multiplied by 3, or 6 tens; set down 0 for the

units, and 6 for the tens; 1 ten multiplied by 2 tens is (by Rule II) 2 hundreds; set down 2 hundreds.

Having now multiplied 13 first by 4 and then by 20, we add the results, 312; and this (by Rule I) is the same as the result of multiplying 13 by 24.

Before passing to any other sums, it will be good practice to multiply in the same way 24 by 13, and to show that the result is the same;

and to multiply 24 by 6 and 7, or by 8 and 5; or to multiply 13 by 12 and 12, or by 10 and 14; and to show that in each case the result is the same.

After all this preliminary training, the teacher may now work the sum above written, briefly thus; "4 ones multiplied by 3 ones is 12 ones; set down 2 ones and carry 1 ten; 4 ones multiplied by 1 ten is 4 tens; set down 5 tens; 2 tens multiplied by 3 ones is 6 tens; set down 6 tens;¹ 2 tens multiplied by 1 ten is 2 hundreds; set down 2 hundreds. Now add."

These and many other sums should be worked by the pupil aloud, the teacher setting down the figures at the dictation of the pupil, who must be trained gradually to increase the rapidity of the process.

But when the pupil is allowed for the first time to set down a sum for himself, great care must be taken not to hurry him, nor to allow him to begin a habit of writing the figures out of the exact vertical columns; and, if possible, the sum should be so simple that he may succeed in his first essay.

The teacher must use some discretion in teaching the above reasoning to children: 1st, he must be perfectly familiar with it himself; 2d, he must be on the alert to detect signs of bewilderment in his pupils; 3d, he must give it up soon, if he finds he does not carry them with him.

Yet even if he does not succeed in making his pupils comprehend the whole of the demonstration, he should *keep the form of the demonstration in mind when working a sum aloud for them*. For example, after multiplying 13 by 4, he will say, "We have now multiplied 13 by the 4 ones; it remains to multiply 13 by 20, or 2 tens," etc. Thus he will gradually instil into their minds some apprehension of the reasons for the process.

(iv.) *Division*.—The teacher must be prepared to find the explanation of division more difficult than that of multiplication and subtraction; and none but very easy examples should be given to illustrate it. Perhaps, in the case of a child who is not very quick, it may be better to dispense altogether with the explanation, simply dictating the steps, and trusting partly to the analogy of multiplying, and partly to the inherent proof contained in each example, in the hope that the pupil may gradually be led to an apprehension of the reasons of the process.

Before beginning the division of large numbers the pupil should be taught to divide, accurately and rapidly, small numbers in which the divisor is not exactly contained, *e. g.* 73 divided by 9 is—8, and 1 over.

Let the pupil divide 12 by 2, and note the result (6); then let him divide 12 into its parts (taking care that the numbers are even) (a) 10

¹ The 0 (to signify that 6 stands for 6 tens, or 60) had better be inserted for some time.

and 2; (b) 8 and 4; (c) 6 and 6; (d) 4 and 4 and 4; (e) 2 and 6 and 4; and let him divide the parts by 2 and add the quotients, (a) 5 and 1; (b) 4 and 2; (c) 3 and 3; (d) 2 and 2 and 2; (e) 1 and 3 and 2. Thus let him discover that in all these cases the quotient is the same as when the whole number was divided, so that he may be led to:

Rule.—*When a number has to be divided it makes no difference whether you divide the whole or divide the parts and add the quotients.*

The pupil must now be reminded of what he has probably already learned on a small scale, when doing little sums that illustrate the division of small numbers, viz., that 6 apples divided by 3 give 2 apples; 6 marbles divided by 3, 2 marbles; 6 tens divided by 3, 2 tens; 6 hundreds divided by 3, 2 hundreds; 6 thousands divided by 3, 2 thousands.

Required, to divide 435 by 3:

3)435 By our Rule, 435 divided by 3 is the same as 400 div^d by 100 3, and 30 div^d by 3, and 5 div^d by 3; or, if we please, it is 40 the same as 300 div^d by 3, and 120 div^d by 3, and 15 div^d by 5 3; or we may divide 435 into any other parts we please, and 145 divide them separately, adding the quotients.

Begin with the hundreds. Threes into 4 hundreds? Not exactly divisible. But 3 hundreds are divisible by 3. We will therefore take away 1 hundred from the hundreds, so as to leave 3 hundreds, and "carry" the 1 hundred (in the shape of ten tens) to the 3 tens, making up 13 tens. Threes into 3 hundred? 1 hundred; set down 1 hundred.

Threes into 13 tens? Not exactly divisible. But 12 tens are exactly divisible by 3. We will therefore take away 1 ten from the tens, so as to leave 12 tens, and carry the 1 ten (in the shape of ten units) to the 5 ones, making up 15 ones. Threes into 12 tens? 4 tens; set down 4 tens.

Threes into 15 ones? 5 ones; set down 5 ones:

3)4734 More briefly we may now dictate a sum of this kind thus:
1000 threes into 4 thousand? 1 thousand and 1 thousand over;
500 set down 1000: threes into 17 hundred? 5 hundred and 2
70 hundred over; set down 5 hundred; threes into 23 tens? 7
8 tens and 2 tens over; set down 7 tens; threes into 24 ones?
1578 8 ones; set down 8 ones.

More briefly still, the next step will dispense with the rows of naughts, by showing that, if we take care to write the thousands and hundreds in the places of the thousands and hundreds, the naughts are unnecessary.

34. THE TRANSITION TO FRACTIONS.

Before proceeding to Fractions, and indeed before proceeding to Long Division (the explanation for which must be taken upon trust by

children, as it is far too lengthy to be imparted without confusing them) a good store of easy problems should be worked involving "the first four rules" applied to small numbers and to small sums of money.

In the course of these, they must be taught, with care and iteration, the different meanings of an answer in division.

Supposing 12 oranges are to be equally divided: the question may be (1) how many oranges are to be given to each of 4 boys, and in that case I divide the number of oranges (12) by the number of boys (4), and the answer (3) represents the number of *oranges*. But the question may be (2) how many boys can be sharers, if each is to receive 3 oranges, and in that case I divide the whole number of oranges (12) by the number of oranges in a single share (3), and the result (4) tells you the number of *times* 3 oranges are contained in 12 oranges; and hence we can infer how many heaps or shares of 3 can be made, and how many boys can share.

Hence our pupils will obtain a useful rule, that:

When a number of things is divided by a number of the same things (e.g. a number of oranges by a number of oranges, of pence by pence, of boys by boys) the answer is a number of TIMES; but when a number of one kind of things is divided by a number of another kind of things (e.g. a number of oranges by a number of boys, a number of soldiers by a number of regiments, a number of sailors by a number of ships) the answer represents some number of the first kind of things (oranges, soldiers, sailors).

At this stage the Definitions of Multiplication and of Division should be taught and committed to memory, as well as the terms Multiplier, Dividend, Multiplier, Divisor, Product, Quotient, etc.

The Arithmetical Problems should be varied in every possible way (the numbers being kept small) so as to familiarize the pupil with the different practical applications of Arithmetic. For example, in a certain number of yards how many telegraph posts can be set up? How many revolutions of a wheel can take place? How many sentinels must be posted? How many desks can be placed? How many boys can stand with arms folded? How many with arms outstretched? All these are simply so many changes rung on one simple method of utilizing division.

In order to increase the number of these problems, and to take advantage of the strength of the memory while it is strongest, it is desirable that children should learn the ordinary Tables of "Weights and Measures" (rejecting those which are of no use) before proceeding to fractions.

At this stage it will be useful to teach the pupil to substitute for "added to," diminished by," "multiplied by," "divided by," the signs $+$, $-$, \times , \div , care being taken that these signs are, from the first, shaped exactly; and in order that the $+$ may be distinguished from the \times , let the $+$ slope a little, if anything to the left. He may also be allowed to use the sign $=$ to denote "is equal to."

At first it will be well that the pupil, though using these signs for convenience in writing, should orally interpret them by the old terms, "added to," "diminished by," etc., not being introduced to the terms *plus* and *minus* till a lesson or two have familiarized him with the written use of these symbols.

The careless use of the sign $=$ must be strictly prohibited. Some boys use it merely as a link to connect together different parts of a problem, thus: "If 12 be multiplied by 3 and then by 4, and the product be divided by 2, what is the quotient?" " $12 \times 3 = 36 = 36 \times 4 = 144 = 144 \div 2 = 72$ Ans. Such slovenly statements must be at once branded as "not true." And any pupil who thus abuses the use of the sign $=$ must be condemned to return to the tedious "is equal to" for a week, at least.

35. FRACTIONS.

There are many ingenious methods of showing children the meaning and laws of fractions. Whatever methods may be adopted, the teacher will always bear in mind the principle that the pupil is to be led to the unknown from the known; and that, as far as possible, he is to discover truths for himself.

Break a thin stick into three parts as nearly equal as you can manage. Each of these *fragments*, you tell him, is a third part, or a "third" of the whole. In Arithmetic, when one whole is thus divided into equal parts, each part is called, not a fragment, but a *fraction*; but the meaning is the same, viz., "a breaking." How are we to express in writing such a fragment or fraction in Arithmetical writing? We might write it $1 \div 3$; but we prefer to write it $\frac{1}{3}$, which means 1 divided by 3, or 1 divided into three parts.

Let the child then break a stick into 2, 3, 4, 5, 6, etc., parts, and write down neatly the Arithmetical signs by which he must express these parts, viz., $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, etc.

Now what does the lower figure in each case tell us? It tells us the number of equal parts into which one, or unity, is divided. By what names shall we call these equal parts? We will call them a half, a third part, a fourth part (or quarter), a fifth part, a sixth, etc.

Hence we see that the lower number of a fraction always tells us the *name* of the parts into which unity is divided. Therefore, the lower figure in a fraction may be called the *Namer*.

Before proceeding further, let the child write down several fractions for himself, *e.g.* $\frac{1}{20}$, $\frac{1}{55}$, $\frac{1}{240}$, and read them aloud; and let him, after a while, be allowed to drop the word "part" (it being explained to him that this is allowed for the sake of brevity), so that he may now speak of "one twentieth," "one fifty-fifth," "one two-hundred and fortieth," etc.

Let the pupil for some time call the lower figure of the fraction the *Namer*, without being allowed to puzzle himself with the less intelli-

ble term (which merely expresses the same thing in a longer word) Denominator.

Next point out that, in breaking a stick or anything else into equal parts; you may take a number of them together. For example, if the stick has been divided into six parts, each of which is called a sixth, you may take 2, 3, 4, or 5 of these together, thus making two sixths, three sixths, four sixths, five sixths, according to the number of parts taken together.

How shall we write down these fractions, say, for example, five sixths? Since we are taking five sixths instead of one sixth, we must write 5 where we wrote 1 before, above the line, to represent the number of the parts, $\frac{5}{6}$; and similarly for the rest, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$.

Since the upper figure represents the number of the parts taken together, it may be called the *Numberer*.

This name should be allowed for some time without permitting the pupil to use the term Numerator, which merely expresses the same thing in a longer word.

36. FRACTIONAL EXPERIMENTS.

Let the pupil take a sheet of note paper, folded in the ordinary way, and having unfolded it, and then refolded it, let him be told to observe that when it is refolded it is folded into *half* of the whole size.

Now let him fold it a second time into a *quarter*, then into an *eighth*, and lastly into a *sixteenth* of the whole size. Lastly, let him unfold it to the full size, and observe the creases dividing the paper into halves, quarters, eighth parts, sixteenth parts; and let him write down *in words* how many of the smaller parts are contained by each of the larger parts.

He will find that a half contains two quarters, or four eighths, or eight sixteenths; also that a quarter contains two eighths, or four sixteenths; and that an eighth contains two sixteenths.

Pointing out to him that he may use the term "is equal to" instead of "contains," and that he may use the symbol = to denote it, you will now bid him write down his discoveries, thus:

$$\begin{aligned}\frac{1}{2} &= \frac{2}{4} = \frac{4}{8} = \frac{8}{16} \\ \frac{1}{4} &= \frac{2}{8} = \frac{4}{16} \\ \frac{1}{8} &= \frac{2}{16}\end{aligned}$$

Let him then be asked to find out from his note-paper, and to write down how many eighths there are in three quarters? How many sixteenths there are in three eighths? How many in five eighths?

$$\begin{aligned}\frac{3}{4} &= \frac{6}{8} \\ \frac{3}{8} &= \frac{6}{16} \\ \frac{5}{8} &= \frac{10}{16}\end{aligned}$$

Now with the aid of a foot-rule, measure off on a stick, or (better) show your pupil how to measure, a foot divided into inches and half-inches. *Carefully avoid using the terms "feet" or "inches,"* but speak of it as a piece of wood divided into 12 parts, each part again being divided into 2 smaller parts, so that the whole stick is divided into 24 parts. And bid him write down how many of the twelfth parts are contained in half the stick? How many in a quarter? He will find that:

$$\frac{1}{2} = \frac{6}{12}; \frac{1}{4} = \frac{3}{12}.$$

How many of the twenty-fourth parts are contained in half the stick? How many in a quarter?

$$\frac{1}{2} = \frac{12}{24}; \frac{1}{4} = \frac{6}{24}.$$

"Let us now run over our results again. We find that $\frac{1}{2} = \frac{2}{4}$: how many times is the numberer 2 greater than the Numberer 1?" Twice. "And how many times the Namer 4 greater than the Namer 2?" Twice. "Again $\frac{1}{2} = \frac{4}{8}$; how many times is the Numberer 4 greater than the Numberer 1?" Four times. "And how many is the Namer 8 greater than the Namer 2?" Four times. "In the stick also we find that $\frac{1}{2} = \frac{6}{12}$; how many times is the Numberer 6 greater than the Numberer 1?" Six times. "And how many times the Namer 12 greater than the Namer 2?" Six times. "Then we find that, whenever two fractions are equal, if the second Numberer is a certain number of times greater than the first Numberer, the second Namer is also—?" The same number of times greater than the first Namer. Write down this:

1. Rule.—*Whenever two fractions are equal, if the second Numberer is a certain number of times greater than the first Numberer, the second Namer is the same number of times greater than the first Namer.*

Then ask the pupil whether $\frac{1}{2}$ is increased when the Namer and Numberer are both multiplied by 2, by 4, by 6, by 8, by 12. And having shown him, by reference to the above results which he has written down, that $\frac{1}{2}$ is not altered, lead him to the—

2. Rule.—*A fraction is not altered when the Numberer and Namer are multiplied by the same number.*

Let us now find out what we have been doing in multiplying the Numberer and the Namer by the same number, and in saying that the fraction is not altered. "What does the Namer name?" The parts into which unity is divided. "Then in multiplying or increasing the number of the Namer, I have increased the—?" Parts into which unity is divided. "I should not say 'increased the parts,' but 'increased the number of parts.' If the fraction is $\frac{2}{3}$, and if I multiply the Namer by 2, I should not say *I increase the part, a third, to the part, a sixth*; for a sixth is smaller than a third; but I should rather say I increase the number of parts into which unity is divided from 3 to 6. In reality I diminish the parts (from a third to a sixth), but I increase

the *number of the parts* (from 3 to 6). Here let me stop to remind you that, when you speak of the *number of parts* in connection with the Namer, you must always distinguish it from the Numberer. The Namer names the number of *parts into which Unity is divided*; the Numberer tells you how many of these parts are *taken together*.

“Now I resume. In multiplying the Namer 3, I have been increasing a certain number of times—what?” The number of parts into which Unity is divided. “And in multiplying the Numberer by the same number of times—what?” The number of those parts taken together. “Then our rule tells us that, when I increase the number of parts into which unity is divided, and increase by the same number of times the number of those parts taken together, the fraction remains—?” The same. “Apply this rule, beginning with a half, doubling the number of parts several times: one half equals two quarters, equals—?” Four eighths, equals eight sixteenths, equals sixteen thirty-seconds, etc.

Since a fraction is not altered by multiplying the Namer and Numberer by the same number, it follows that—

3. Rule.—*A fraction is not altered by dividing the Namer and Numberer by the same number.*

This may be proved to the child by showing (as above) that if you diminish the Namer you increase the size of the parts of unity, and if you diminish the Numberer, *i.e.* the number of those parts of unity, the same number of times, the fraction must remain unaltered.

But it would probably be sufficient and more intelligible to illustrate this truth by examples, thus: We have seen that $\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{8}{16}$, where the Numberer and Namer have been multiplied by 2, by 4, by 8. Reversing these, we see that $\frac{8}{16} = \frac{4}{8} = \frac{2}{4} = \frac{1}{2}$. Here the Numberer and Namer have been divided by 2, by 4, and by 8, and yet the fraction has remained unaltered in value.

37. ADDITION OF FRACTIONS.¹

“Add together a halfpenny and a farthing; what is the result?” Three farthings. “Exactly; and in order to get this result, what did you do to the halfpenny?” I turned it into farthings. “Now add a half and a quarter; what is the result?” Three quarters. “And in order to get this result, what did you do?” I turned the half into quarters.

“Now when you add pence and farthings, or pounds and shillings, or tons and hundredweights, or, generally, a number of things of one name or denomination to a number of things of another name or denomination, you reduce them to the same—?” Denomination. “Exactly; and you have to do the same thing with fractions; but as the name or denomination of a Fraction depends on its Namer, or

¹ By this time the pupil should be introduced to the terms Denominator (for Namer) and Numerator (for Numberer).

Denominator, we generally speak of reducing Fractions so that they may have the same Denominator.

"If, therefore, I wish to add $\frac{1}{2}$ to $\frac{1}{8}$, what must I do to the $\frac{1}{2}$?" Turn it into eighths. "What must I do to the $\frac{1}{2}$ in order to turn it into eighths?" Multiply it by 4. "No, for 4 times $\frac{1}{2}$ would be—?" Two. "If, therefore, you multiplied the fraction $\frac{1}{2}$ by 4, you would alter its value, and not reduce it to the same Denominator as $\frac{1}{8}$; you wish to leave its value unaltered, and yet to turn the Denominator into 8."

If the pupil cannot, upon consideration, tell you what is to be done, you must remind him of Rule 2, that *a fraction is not altered by multiplying the Numerator and Denominator by the same number*. Then you ask, "By what number must I multiply the Denominator of $\frac{1}{2}$ in order to make the new Denominator 8?" By 4. "And by what number must I multiply the Numerator in order not to alter the value of the fraction?" By 4. "And what does $\frac{1}{2}$ then become?" $\frac{4}{8}$. "And we obtained this result by multiplying the smaller Denominator by such a number as to make it equal to the larger Denominator, and by multiplying the Numerator by the same number."

After several instances of this kind, in which one fraction is added to another by reducing the former to a fraction with the *same Denominator as the latter*, we proceed to instances where *both* fractions are altered by being reduced to fractions with the same Denominator. "Add a pound to a florin." Twenty-two shillings. "In order to get this answer, what did you do to the pound and the florin?" I turned them into shillings. "Yes, in order to add money of different denominations you turned them both into money of the—?" Same denomination. "And so, in order to add two fractions of different denominations, you must often turn them *both* into fractions with the same denominator."

Required, to add together $\frac{1}{3}$ and $\frac{1}{4}$.

"Take your stick, which is divided into twelve equal parts, or twelfths; suppose I have to add $\frac{1}{3}$ and $\frac{1}{4}$ of the stick. I see that $\frac{1}{3}$ of the stick contains a certain number of these twelfths. How many twelfths?" 4 twelfths. "Write down in arithmetical signs, that one third is equal to four twelfths." $\frac{1}{3} = \frac{4}{12}$.

"Here you have multiplied the Numerator and Denominator of the first fraction by 4, have you not?" Yes. "Well, note that 4 is the Denominator of the second fraction. And now look at the stick, and tell me how many twelfths there are in $\frac{1}{4}$. Write down the result in arithmetical signs." $\frac{1}{4} = \frac{3}{12}$.

"Here you have multiplied the Numerator and Denominator of the second fraction by—?" 3. "Yes, and note that 3 is the Denominator of the first fraction."

"Now, therefore, knowing that one third is equal to four twelfths, and that one fourth is equal to three twelfths, we know that one

fourth added to one third is equal to—how many twelfths?” Seven twelfths. “Write down this result in arithmetical signs, viz., that a third added to a quarter is equal to four twelfths added to three twelfths, and that this is equal to seven twelfths.”

$$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}.$$

“Now, in order to add any two fractions in this way, we want a rule to guide us. Let us see what we have been doing. In order to alter the shapes of the two fractions above, so that, without having their values altered, they should have a *Denominator common to both*, we multiplied the Numerator and Denominator of the first by 4, which was the Denominator of the second. “And we multiplied the Numerator and Denominator of the second by—?” 3. “Which is the—?” Denominator of the first.

Try the same method with $\frac{1}{2}$ and $\frac{1}{3}$. “What does the first become when its Numerator and Denominator are multiplied by the Denominator of the first?” $\frac{2}{6}$. “Add the results.” $\frac{2}{6} + \frac{2}{6} = \frac{4}{6}$. “Verify these results on the stick. Are they true?” Yes. “Then now repeat the—

4. Rule.—*In order to add two fractions, multiply the Numerator and Denominator of the first by the Denominator of the second, and the Numerator and Denominator of the second by the Denominator of the first. Then add the two Numerators, retaining the Common Denominator.*¹

38. THE VALUE OF A FRACTION.

“What is the meaning of $\frac{3}{4}$ of an orange?” That one orange is divided into 4 parts, and 3 of these are taken together. “True; but I shall now show you that $\frac{3}{4}$ has another meaning. Suppose I take 3 oranges at once and divide them among 4 people, what will each receive? You cannot at once answer. How many quarters will there be in 3 oranges?” 12. “And twelve quarters divided amongst 4 people give to each—?” 3 quarters. “Then you see that $\frac{3}{4}$ of an orange is the same as 3 oranges divided by 4.” Yes. “And, similarly, $\frac{3}{4}$ of a hundred is the same as 3 hundreds divided by 4.” Yes. “And therefore $\frac{3}{4}$ of a unit (*i.e.* $\frac{3}{4}$) is the same as 3 units divided by 4 (*i.e.* $3 \div 4$)?” Yes.

Now let us see whether this rule holds true in other cases, viz., that a Fraction is the same as the Numerator divided by the Denominator. “According to this rule, what would be the value of $\frac{48}{4}$?” 12. “How many quarters are there in 12 things?” 48. “Then is it true that $\frac{48}{4} = 12$?” Yes. “Again $\frac{8}{2}$ are—?” 4. “ $\frac{16}{4}$ are—?” 4. Then from all these cases we see that—

¹ As for the Rule of Least Common Multiple, it can be advantageously deferred. When the pupil has to add three fractions, let him (at first) add two together, and add the result to the third. He will thus all the more appreciate the rule of the L. C. M. when he reaches it, as shortening a lengthy process.

5. Rule.—*The value of a Fraction is the same as that of the Numerator divided by the Denominator.*

Hence when we speak of five sixths we mean either (1) that one thing is divided into 6 parts, five of which are taken together, or (2) that five things are divided by 6.

39. MULTIPLICATION AND DIVISION OF FRACTIONS.

(i.) *To Multiply a Fraction by a Whole Number.*¹

“What is 7 times 5 oranges?” 35 oranges. “7 times 5 ounces?” 35 ounces. “7 times 5 millions?” 35 millions. “7 times 5 quarters of an orange?” 35 quarters of an orange. “7 times 5 halves?” 35 halves. “7 times 5 sixths?” 35 sixths. “Write down in arithmetical signs that 7 times 5 sixths (*i.e.* 7 multiplied by 5 sixths) is 35 sixths.”

$$7 \times \frac{5}{6} = \frac{35}{6}.$$

“What is 5 times 7 eighths?” 35 eighths. “Write this down.”

$$5 \times \frac{7}{8} = \frac{35}{8}.$$

“Hence, in order to multiply a fraction by a number, what must we do to the Numerator?” Multiply it by the number. “And what to the Denominator?” Nothing.

Then write down the—

6. Rule.—*In order to multiply a Fraction by a Whole Number multiply the Numerator by it, and leave the Denominator unchanged.*

(ii.) *To Divide a Fraction by a Whole Number.*

“Suppose I have three separate quarters of an orange, and I wish to give half of my three quarters to a companion, I can cut each quarter into two eighths, can I not, and keep three of the eighths, while I give him the other three?” Yes. “What, therefore, is $\frac{3}{4}$ when divided into two equal parts, or, in other words, when divided by 2?” Three eighths. “Write down in arithmetical signs that three quarters divided by 2 is equal to three eighths.”

$$\frac{3}{4} \div 2 = \frac{3}{8}.$$

“In the same way, suppose there is a stick of chocolate twelve inches long, cut into separate twelfth parts (or inches), of which I have received five; and suppose I wish to share my five twelfths (or inches) equally with a companion, or, in other words, to divide it by 2. I can divide each of my inches into half, can I not, and give him five half inches, while I retain five half inches myself?” Yes. “In other words, five inches, when divided by 2, is five half inches?” Yes. “Now an inch is a twelfth part of a foot; what part of a foot is half an inch? If you cannot tell at once, count how many half-inches

Here it may be explained that a number that is not a fraction is sometimes called a *whole number*, in order to distinguish it from a fraction, or broken number.

there are on the foot rule." 24. "Then a half-inch is what part of a foot?" A twenty-fourth. "Therefore, in saying that five inches, when divided by 2, are equal to five half-inches, we really say that five *twelfths* divided by 2 are equal to—?" Five twenty-fourths. "Write down in arithmetical signs that five twelfths divided by 2 are equal to five twenty-fourths."

$$\frac{5}{12} \div 2 = \frac{5}{24}.$$

"Now here we have been dividing first $\frac{3}{4}$ by 2, and then $\frac{5}{12}$ by 2. Have we in either case altered the Numerator?" No. "Have we altered the Denominator?" Yes. "What have we done to it?" Multiplied it by 2. "But 2 is the Whole Number by which we are to divide, is it not?" Yes. "Then, in order to divide a Fraction by any Whole Number, what must you do?" Multiply the Denominator by the Whole Number. "Write that down."

7. Rule.¹—*In order to divide a Fraction by a Whole Number, multiply the Denominator by it, and leave the Numerator unchanged.*

(iii.) *To multiply one Fraction by another.*

Required to Multiply $\frac{1}{3}$ by $\frac{3}{4}$.

"If I multiplied $\frac{1}{3}$ by 3, the result (by Rule 6) would be $\frac{3}{3}$.

"But this would be too much; for I have multiplied by 3 instead of by $\frac{3}{4}$, i.e. (Rule 5) $3 \div 4$. The multiplier has therefore been 4 times too great; what must I do to diminish the result?" Divide by 4.

"And $\frac{3}{3} \div 4$ is (by Rule 7) what?" $\frac{3}{12}$.

Hence

$$\frac{1}{3} \times \frac{3}{4} = \frac{3}{12}.$$

"How have we obtained our new Numerator?" By multiplying the two old Numerators together. "And how the new Denominator?" By multiplying the two old Denominators together. "Then now you can write down the following:

8. Rule.—*In order to multiply two Fractions together, multiply the two Numerators to obtain the new Numerator, and the two Denominators to obtain the new Denominator.*

(iv.) *To divide by a Fraction.*

"How many halves are there in 1?" 2. "Then 1 divided by $\frac{1}{2}$ is—?" 2. "How many quarters are there in 1?" 4. "Then 1 divided by $\frac{1}{4}$ is—?" 4. "What is $1 \div \frac{3}{4}$?" You cannot tell at once. How many quarters are there in 1?" 4. "Then $1 \div \frac{3}{4}$ is the same as 4 quarters divided by 3 quarters, is it not?" Yes. "And this is $\frac{4}{3}$?" Yes. "Write down your results."

$$\begin{aligned} 1 \div \frac{1}{2} &= 2. \\ 1 \div \frac{1}{4} &= 4. \\ 1 \div \frac{3}{4} &= \frac{4}{3}. \end{aligned}$$

Hence we obtain a—

¹ Rules 6 and 7 may afterwards be amplified by showing that multiplying the Denominator produces the same result as dividing the Numerator, and that dividing the Numerator produces the same result as multiplying the Denominator.

² Not 4-3 quarters (see Rule, Par. 34), but 4-3 times, or units.

9. Rule.—*In order to divide by a Fraction, invert the Fraction and multiply.*

Another Method.

The following method is not experimental; but it is brief, and has the advantage of applying to the division of a Fraction, as well as of a Whole Number, by a Fraction.

(1) Required to divide 12 by $\frac{3}{4}$.

If I divide by 3, instead of by $\frac{3}{4}$, the answer would be $1\frac{2}{3}$; but as I have divided by a divisor 4 times too large, the result is 4 times too small, and must be multiplied by 4; it is therefore

$$\frac{4 \times 12}{3}$$

Here we have inverted the Fraction and multiplied. The pupil will readily see that (by Rule 5) the result is 16, and can verify the result on a foot rule by ascertaining that there are 16 three quarters of an inch in 12 inches.

(2) Required to divide $\frac{3}{4}$ by $\frac{5}{7}$.

If $\frac{3}{4}$ be divided by 5 instead of by $\frac{5}{7}$, the result is (Rule 7) $\frac{3}{4 \times 5}$ i.e. $\frac{3}{20}$; but, as the divisor is 7 times too large, the quotient is 7 times too small, and requires to be multiplied by 7; this is $\frac{3 \times 7}{20}$ or $\frac{21}{20}$.

From both these instances we obtain the Rule given above.

40. THE MODERN RULE OF THREE, OR METHOD OF UNITY.

The "Rule of Three," as it used to be taught with the old-fashioned method of "stating," affords little, if any, opportunity of appealing to the reason; but when it is taught according to what is called the Method of Unity, presupposing a knowledge of Fractions, it is a most valuable mental exercise.

Thus, suppose the question to be, "If 5 apples cost $2\frac{1}{2}d.$, what will 21 apples cost?"

The price of 5 apples is $2\frac{1}{2}d.$, or $\frac{5}{2}d.$

Therefore the price of 1 apple is $\frac{1}{5}$ of $\frac{5d.}{2}$ or $\frac{5d.}{2 \times 5}$

Therefore the price of 21 apples is 21 times $\frac{5d.}{2 \times 5}$ or $\frac{5 \times 21d.}{2 \times 5}$ or $\frac{21d.}{2}$ or $10\frac{1}{2}d.$ ¹

1. In time, *but not at first*, the pupil may substitute \therefore for "therefore," = for "is," and \times for "of" and for "times." He may also be allowed, instead of repeating the same words three times, to indicate them by " " " .

¹ The process of *canceling* factors common to the Numerator and Denominator follows at once from Rule 3, Page 56.

2. But he must never be allowed to carry his desire for abbreviation so far as to write (which he will probably do if not checked) "5 apples = $2\frac{1}{2}d.$ " or "5 apples cost $2\frac{1}{2}$ (omitting the d which denotes pence).¹

3. Before beginning any sum of this kind, the pupil should be asked to give a rough answer to the problem by common sense. Thus, in the question about the price of 21 apples, he should be asked, "Will the price demanded be more or less than $2\frac{1}{2}d.$?" More. "How much more?" As much more as 21 apples are more than 5 apples. "And how many times 5 is 21, roughly?" Four times. "Then roughly the new price will be how many times more than $2\frac{1}{2}d.$?" About four times. "And 4 times $2\frac{1}{2}d.$ amount to —?" $10d.$ This will enable the pupil at once to detect any gross inaccuracy in the answer.

4. In spite of this and other precautions, most children, after "doing" the Method of Unity for a few days, will probably—from natural aversion to thinking—fall into a mechanical way of writing their sums.

When the teacher sees signs of this, he should set the pupil a sum on the same principle, but in a different shape, thus:

"If 5 men do a piece of work in $2\frac{1}{2}$ days, how long will it take 23 men?"

The average pupil will *do* this sum very rapidly, thus:

$$\begin{array}{rcl}
 & \text{days.} & \text{days.} \\
 5 \text{ men do it in } & 2\frac{1}{2} & \text{or } \frac{5}{2} \\
 & \text{days.} & \\
 \therefore 1 \text{ man. " " } & \frac{5}{2 \times 5} & \\
 & \text{days.} & \\
 \therefore 23 \text{ men " " } & \frac{5 \times 23}{2 \times 5} & \\
 \text{Ans.} = \frac{23}{2} = 11\frac{1}{2} \text{ days.} & &
 \end{array}$$

It would be a most valuable antidote to thoughtlessness and to the slight conceit that is sometimes bred by a confidence in mechanical methods, to point out the extreme absurdity of this answer, and to convince the boy thereby of the utility (1) of the preliminary question, "Will the time demanded be more or less than the time given?" (2) *of the necessity of reasoning, as well as writing figures.*

If the pupil had reasoned before he began to write, he would have seen at once that 23 men will take less, not more, time than 5 men to

¹ The Author has been for many years in the habit of setting almost every week a sum of this kind in an entrance examination: If 216 lbs. of soap cost £5 8s., what will 800 lbs. of soap cost? And a very large number (a fourth or fifth, at least, of those who have attempted it) have stated it thus, omitting not only the sign lbs., but also the signs £. s.:

$$216 : 800 :: 5 \text{ } 8 : x.$$

Then, having taken for granted that 5 // 8 means 5s. 8d., they proceed to show that 800 lbs. of soap cost about £1. 5s. less than a quarter of the price of 216 lbs.

do the same piece of work, and might further have seen that the answer would be about the fifth part of $2\frac{1}{2}$ days.

41. DECIMAL FRACTIONS.

Only one or two hints on this subject will be given. It presents very little difficulty, if ordinary fractions have been thoroughly mastered, and if at first the pupil is constantly reminded of the unexpressed Denominator.

(1) The Rule for the multiplication of Decimals may be illustrated experimentally by small numbers; thus: To multiply .2 by .2. This is the same as $\frac{2}{10} \times \frac{2}{10}$, or $\frac{4}{100}$, which is expressed by .04. Similarly, .12 multiplied by .12 = $\frac{12}{100} \times \frac{12}{100} = \frac{144}{10000} = .0144$. In these two instances we see the general Rule.

Multiply as in whole numbers, and point off decimal places in the product equal to the sum of the decimal places in the multiplier and multiplicand, adding naughts to the left if necessary to complete the number.

(2) For the Division of Decimals it is a good rule, at all events for beginners, to multiply the Divisor and Dividend by such a power of 10 as to convert *both* into whole numbers.

Thus

$$\frac{.00543}{103.75} = \frac{543}{10375000}.$$

(3) The process of expressing a circulating Decimal as an ordinary Fraction is commonly taught by a mechanical rule which in no way exercises the reasoning powers. But no rule at all should be given. The logical process itself can be easily understood, and is very little longer than the ordinary mechanical one. It should therefore be not only understood, *but regularly employed by the pupil*, as follows:

Express 13.34567 as an ordinary fraction.

The fraction may be represented by F.

Then $F = 13.34567567$, etc., (1).

Multiply both sides of (1) by 100.

$F \times 100 = 1334.567567567$, etc., (2).

Multiply both sides of (2) by 1,000.

$F \times 100 \times 1000 = 1334567.567567$, etc., (3).

Subtract the second line from the third.

$F \times (100,000 - 110) = 1334567 - 1334.$

$$F = \frac{1334567 - 1334}{99900}.$$

Whence in time the pupil may discover for himself the general rule that:

The Numerator of the new Fraction is formed by subtracting the non-repeating part of the decimal from the whole decimal, including the whole number, and the Denominator by writing down as many nines as there are repeaters, and as many naughts as there are non-repeaters.

42. GENERAL CAUTIONS.

1. Children should not be allowed (as they are in many schools) to have the answers to their sums.

The possession of the answers encourages them to scamper over the working of a sum without thought about the reasonableness of the method, knowing that "the answer will tell them" whether their method has been correct.

2. As to the correction of errors, it is well that error of miscalculation (as well as method) should be corrected, as far as possible, by the pupil himself. A child should not be allowed to say, or fall into the way of thinking, that a sum "won't come out right." On the contrary, he ought to be made to believe that a sum "*must* come out right"; and if a sum, right in principle, has resulted in an erroneous answer, owing to some miscalculation, the sum should be returned to him, that he may work it over again and detect his error. "But may not a child weary himself thus endlessly, by repeating some error into which he may have fallen by a temporary lapse of memory, fancying, for example, that $8 \times 9 = 73$, or that 28 cwt. = 1 ton? A mistake of this kind cannot be detected by the child himself, though he may labor for twenty-four hours."

True; and, therefore, after a child has made one attempt to correct an error, the teacher may come to his assistance in one of two ways: (1) either he may tell the pupil to refresh his memory as to "8 times" in the Multiplication Table, or to study the Table of Weights and Measures, and then to try again; or else, (2) the pupil may work the sum aloud before the teacher, and have his error or errors pointed out; but, in either case, the teacher should not be satisfied till the pupil has worked through the whole sum by himself correctly.

(3) Children should be taught to be slow, and to think, in the reasoning part of arithmetic, but to be quick, and not to think, in the mechanical part.

If a child is slow in calculation, he is likely to be inaccurate; for his slowness increases the chance that he will not be able to keep up the strain of attention for the necessary time to finish the process of calculation.

Working in competition with others, working against time, and constant repetition of Tables, whenever an error in any Table has been made—these are the best means for securing rapidity in the mechanical processes of Arithmetic.

ENGLISH COMPOSITION AND GRAMMAR.

43. A NATURAL STYLE.

In teaching children English Composition, the teacher must be on his guard against destroying the naturalness of their style. A child must not be expected to use the ample vocabulary or flexible phraseology of his elders; and if his rudimentary attempts at composition are corrected by the standard of a mature composer, he is likely to be discouraged by the multiplicity of the corrections, and also to fall into a premature and affected employment of language that has for him but little meaning. Of all dangers, artificiality in composition is the most to be avoided. It is difficult, and, indeed, hardly possible, to recover the power of writing naturally when once lost; and an unnatural style is an obstacle to thinking clearly, as well as to writing forcibly. Therefore:

Let children write, as they speak and as they think, after the manner of children.

But of course we are not to leave children at a stand, to be children always in thought and language. We must endeavor both to improve their style and to develop their faculty of thought, taking care that the former may keep pace with, but not outrun, the latter. Even a child can understand, besides grammatical errors, (1) the mischief of ambiguity, (2) the utility of brevity, and (3) to some extent, the superiority of pointed, forcible, and picturesque expressions over those which are flat, dull, and colorless. Later on, he may also be made to understand (4) the advantages of order. On the whole, we may say, as a general rule:

Let the teacher insert no correction of which the pupil cannot see the advantage.

44. THE USE OF CONVERSATION FOR THE PURPOSE OF COMPOSITION.

It is obvious that if we are to improve a child's power of writing, and yet to encourage him to write as he speaks, we must not allow him to speak in a slovenly way.

Care will be required here, on the one hand, not to pass over so many inexact or uncouth expressions as to confirm the child in bad habits of expression, and, on the other hand, not to correct him so constantly, especially before strangers, as to make the very act of speaking a burden to him. It must be remembered, also, that in conversation, as in everything else, the child will imitate those around him, and will be fluent or hesitating, exact or inexact, weak or forcible, very much after the pattern of those with whom he has to do.

45. THE USE OF LETTERS IN COMPOSITION.

The best exercises for young children are letters; because in letters they may most easily acquire the art of writing naturally, that is, the art of writing as one would speak.

If possible, the letters should be *bona fide*, i.e., letters written to some one who is, or may be supposed to be, interested in reading them. They may be corrected by pointing out, (1) how nouns or pronouns have been unnecessarily repeated; (2) how facts have been inaccurately or ambiguously expressed; (3) how incidents, or features in incidents likely to be interesting to the intended reader, have been omitted by the child. Corrections of the kinds (1) and (2) will increase ease, neatness, and exactness; corrections of the kind (3) will increase picturesqueness of style.

Without any direct praise of the style, the teacher may sometimes apply a useful stimulus by finding occasion to say of a better letter than usual, "I think —— will be interested in reading this letter."

"In correcting letters," says Preceptor, "the teacher must carefully distinguish between differences of thought and differences of expression, and must very seldom correct the former. For example, a brother and sister having seen a hare in the field, may describe the sight in two totally different manners. I remember that a boy of a statistical and matter-of-fact turn of mind, actually described such a sight thus: 'Yesterday, while we were driving along the road to ——, a hare started in a field about twenty yards to the right of us, and ran some sixty yards in a northwest direction, after which, it turned into a wood on the left, and disappeared.' But his sister, seeing precisely the same thing, might describe it thus: 'As we were out on a drive, we saw such a pretty brown hare, quite close to us; and as soon as it saw us, it rushed away over the grass, and hid itself in a thick wood.'"

Here our teacher will probably agree with Preceptor that it would be equally unwise to try to make the boy's style more picturesque, and the girl's more statistical. Each must write what is in his own mind. All that the teacher can do with advantage will be to make an occasional comment on the boy's style, to the effect that "—— will not be much interested in this letter;" or, on the girl's, that "—— will not be able to understand from this letter when, or where, this or that took place, or how it happened."

46. THE USE OF TALES IN COMPOSITION.

Letters cannot be regularly used as exercises; for it cannot regularly happen that a child will have matter for a letter; and more harm than good will be done by compelling him to write letters when he really has nothing to say.

Another method of teaching English Composition is to tell children

interesting stories, and (some time afterwards) to require them to set down one of these stories in writing.

"History," writes Preceptor, "unless treated from its romantic and picturesque side, is by no means adapted for these exercises. Until a child is old enough to understand the relative importance of historical events—a narrative of wars, rebellions, intrigues, treaties, and negotiations is mostly unintelligible, and entirely dull. Biography is not much better for very young children. In the life of a great statesman or general, neither the obstacles to success, nor the successes, nor the failures are upon the level of a child's experience and understanding, and the following brief 'Life of the Earl of Essex'—which was actually sent up to me—represents, without exaggeration, the marvellous instinct with which the boyish mind relieves itself of indigestible encumbrances, and selects those few attractive incidents which it can retain without injury: 'The Earl of Essex was a great man. He lived in the reign of Queen Elizabeth, who gave him a ring and a box on the ear. He was executed in that reign.'"

For older children, some of the stories of ancient history (such as the death of Leonidas at Thermopylæ) can be made intelligible and attractive; but, for the younger, it will be more profitable to employ fiction, and the ordinary fairy tales will be found the best and simplest. If the teacher can tell stories of his own, and if his own stories interest children more than the far better tales which he remembers from Grimm and Hans Andersen, the inferior are, for the purpose in hand, superior. In any case, spoken stories are much better than stories read from a book.

The favorite stories should be repeated several times before the child is asked to write them down. Thus, besides stimulating his imagination, you will have insensibly enlarged his vocabulary and his store of idioms; and if you do not too much "speak down to" the child, he will gradually shake off the first stiffness of a child's style, and acquire flexibility and variety.

Teaching by stories has two great advantages over teaching by letters. First, you can criticise the boy's narrative, when dull and tedious, by reminding him that he has left out this or that point of interest; secondly, you can criticise faults of arrangement by pointing out how the disarrangement confused the story. This cannot be done so well with a letter, which the pupil may naturally regard as a narrative of his own, which he tells as it occurred to him; but the story is yours, and the pupil more readily acquiesces in your right to dictate how it should be told, and appreciate the superiority of your version over his.

47. TYPICAL SENTENCES.

At this stage the pupil may now, without danger of corrupting or, if I may use such a word, artificializing his style, be taught the use of a few forms of sentences.

He ought to have begun, before this time, to learn English Grammar; but, whether he has begun or not, he can be drilled in the use of conjunctions and participles by turning two sentences into a third, thus:

(1) "Dinner was now ready. (2) We all sat down."

(3) "As dinner was now ready, we all sat down."

Or, again, having given the child two short and simple sentences, such as, "John laughed. Thomas cried," you may drill him in the exercise of combining these two sentences, by means of some "joining word," thereby producing many different senses, thus: "John laughed because, since, as, while, when, though, Thomas cried."

You may then show the pupil how, without altering the sense, these "joining words" may be put first in the sentence: "If, because, since, as, while, when, though, Thomas cried, John laughed."

The following exercise may be useful as a pattern, with the aid of which it will be easy for the teacher to construct others of the same kind:

"Once the weather was very dry. A thirsty crow searched everywhere for water. She could not find a drop. She was croaking for sorrow. She spied a jug. Down she flew at once. She eagerly pushed in her bill. It was of no use. There was plenty of water in the jug. She could not reach it. The neck of the vessel was so narrow. She had tried in vain for half an hour to reach the water. She attempted to tip the jug over. It was too heavy for her. She could not stir it. She was on the point of giving up in despair. A new thought struck her. Said she, 'I will drop some stones in the jug. The water will rise higher. In time it will rise up to my bill.' She was nearly fainting with thirst. She bravely set to work. Each stone fell. The water rose. Half an hour had passed. The clever crow had drunk every drop in the jug."¹

48. ENGLISH GRAMMAR.

If rightly taught, this subject may be made (even for young children of six or seven) a most interesting and rational study; but, as generally taught, it is the most mechanical, the most meaningless, and the most stupefying of all studies.

The reason for this deplorable failure is that the subject is over-

¹ "It is probable," writes Preceptor (but the Author has no experience to warrant more than a conjecture), "that much more may be done than is usually supposed possible, to improve the style of older students, by the use of typical sentences. Take, as an example, Denham's description of the Thames:

'Though deep yet clear, though gentle yet not dull,
Strong without rage, without o'erflowing full,'

on which many changes might be agreeably rung. 'Learned without pedantry, and witty without malice; though brief he was never obscure, and though forcible never coarse.' 'Though generous yet just, though rapid yet never rash, he was firm without obstinacy, and discreet without a trace of fear.'"

loaded with superfluous technicalities and confused mis-statements borrowed from Latin grammar. For example, in such a sentence as "The tall tree is in the field," a child is even now occasionally taught to "parse" the word "tree" as "a *common* noun, *neuter* gender, *third* person."

Now as there are no inflections of gender at all in English adjectives, it is impossible, from the structure of a modern English sentence, to tell whether "tree" is neuter (as in Greek), or feminine (as in Latin), or masculine (as in French). All that can be said with truth (*in English*) is, that the word "tree" represents an object that is inanimate, which some people irrationally call "neuter."

Is this worth saying? Is it worth while compelling a boy, every time he parses a "Noun," to write down that it represents an animate or inanimate object. Why may he not, with equal advantage, write down that it represents a fluid or solid substance?

Again, the epithet "common," in "Common Noun," is intended to indicate that the Noun is not a *proper* name denoting a single object, like "Thomas"; nor does it denote something of an abstract nature, like "walking," "blindness," but it is a name "common" to the whole class of trees. But of what possible advantage is it to overload a child's memory (we cannot say his mind) with distinctions so subtle as these?

Lastly, why should the pupil be taught to repeat that "tree," in the above sentence, is "in the Third Person"? This merely means that the verb "is," agreeing with the Subject or Nominative "tree," is in the "Third Person"; and (seeing that *every Noun* may be said to be "in the Third Person" when it is the subject of a Verb) why not be content to confine this statement to the Verb, instead of extending it to the Noun? If the pupil is told that the Verb has different forms, according as its subject is the First, Second, or Third Person, and that *every Noun subject* requires the Verb to be "in the Third Person," that is intelligible; but to force a boy to write down, after every Noun, that it is "in the Third Person" is a cruel waste of time for a dull boy, and an impudent attempt to impose upon a quick boy. Naturally, the vast majority of boys, the dull and ordinary, not being able to apprehend the slightest reason for all these reiterated technicalities, give up the subject as unintelligible, and, trusting entirely to memory, dispense altogether with the understanding.

The consequence is that while many children who have learned English Grammar for several months or years can repeat with great promptness long, difficult, and sometimes erroneous and inadequate definitions of the Parts of Speech, and are fluent in such valuable pieces of grammatical information as that "cow" is the feminine of "bull," and "ram" the masculine of "sheep," they are very often unable to tell the Parts of Speech in the easiest sentence with any degree of certainty or accuracy. In no other subject are children

so frequently in the habit of answering wildly, and in a tone of interrogation, displaying that promptness to substitute new answers for the old answers, which is an invariable proof of total ignorance.

Discontent with the results of the parsing system has led many to substitute for it "Analysis of Sentences." But even the teaching of this subject has been unnecessarily complicated and confused by a want of common sense and of constant reference to first principles. For example, one of the most popular treatises on Analysis confuses together (or till recently confused) the two quite distinct uses of the Relative Pronoun in the two sentences, (1) "The man that is passionately fond of music gains much pleasure," and (2) "The concert had great attractions for my brother, who is passionately fond of music."

In (1) the words, "that is passionately fond of music" are equivalent to an Adjective, viz., "music-loving"; in (2) the words "who is passionately fond of music," are equivalent to "for he is passionately fond of music," and constitute a new *sentence conveying the reason* for a previous statement. But, in the Treatise just mentioned, one uniform rule having been mechanically laid down for the use of the Relative Pronoun in analysis, this manifest distinction was ignored; and certified masters of considerable standing and of more than ordinary ability were taught, and taught others, to perpetuate this indiscriminating error, and to say that in both cases "the Relative Pronoun introduces an Attribute."

The remedy seems to be in teaching English Grammar and Analysis, 1st, and most important of all, *not to teach anything that the teacher does not himself understand and perceive to be true*; 2d, not to teach anything that does not develop the mind of the pupil or facilitate the comprehension of language; 3d, to avoid technicalities as far as possible, and, where they are necessary, to use such terms as explain themselves; 4th, although it may be necessary *in a written Grammar*, which aims at completeness, to deal with a great number of grammatical distinctions and to use a good many technical terms, the teacher will do well to pass over some, or altogether omit them, in order to dwell more on others which are of greater importance.

One of the best mental exercises in Grammar for young children is the "Parsing," or distinguishing the Parts of Speech. Mechanically taught, this is useless, or worse than useless; but if children can be taught to classify words rationally, as they would classify leaves, or stones, or figures, the process combines something of the interest of botany with something of the interest of logic. The following are the principles on which a child should be taught how to tell the Parts of Speech:

1. The pupil must be taught by experiment, *i.e.*, experimenting with words.

2. As the specimens with which a boy is taught botany must be such as he himself can see, handle, and dissect, so the words with which a boy is to be taught grammar must be such as he himself can

use with ease and accuracy, because he thoroughly comprehends their meaning.

3. Starting from his own words the pupil must be led to answer the question, what his words *do*, or what they *tell* him. For example, in "Thomas runs," "runs" tells you what Thomas *does*, Thomas tells you the *name* of the person who runs; or, again, in "the black dog runs quickly," "black" tells you what kind of a dog it is; "quickly" tells you *how* he runs.

4. Having made separate columns for these different classes of words, the boy may collect specimens (extracted from sentences of his own) of the words that tell him (1) the *names* of persons and things; (2) the *kinds* of things; (3) what any thing *does*; and (4) *how, when, or where* anything is done.

5. After this, you may teach the pupil (by experiments) how inconvenient it sometimes is to repeat a name, or noun, every time we want to speak of a person or thing; and thus you may lead him to see the use of "he," etc., etc., and other (5) words that stand *for nouns*. (6) By showing him how to *join two sentences* by the insertion of a word between them, you lead him to classify "words that join sentences," which for a time he may be allowed to call *Joiners*.

6. The ordinary definition of a Preposition, which introduces the word "relation," is totally unfit for children. But you may point out how, in answer to the question *where? whither? or whence?*—i.e., in answer to questions about *place*—we find ourselves unable sometimes to reply in one word, and are obliged to use two or three words, as "*in* the room," "*to* the room," "*from* the room." Words thus *placed before* names are called *Prepositions* (i.e., "*placed before*"). When a list has been made of them by experiment, they may be committed to memory.

7. Not till the child is familiar with the classification of the *functions of words*, i.e., readily able to tell you what words *do*, should he be introduced to the names of the classes of words based upon this classification.

8. Some teachers wrongly suppose that there is little difference between this system (which may be called the *inferential*) and the ordinary system (which may be called *explanatory*); and they fancy that equally satisfactory results can be obtained by allowing the pupil to start with the definitions of the terms Verb, Adverb, etc., provided that, after he has assigned any word to its class, he is compelled to tell you *why* the word is a Verb, Adverb, or whatever else.

But a little experience and the laws of human nature should prevent us from confusing two systems radically distinct.

9. When a boy has once said that a word is a verb, he will easily find a reason for it somehow. Our object is to keep the mind of the pupil *free from prejudice*; but having committed himself to a theory, he is no longer impartial. And the duller sort of boys are so fond of

such technicalities as may seem to dispense with the use of the understanding that they will naturally flee to the technical term *first*, and put off thinking about the reason till afterwards, that is to say, forever.

Let none, therefore, suppose that the system of *giving reasons* for Parts of Speech is the same as that of *inferring the Parts of Speech from the functions of the word in the sentence*.

A thorough drill in "stating functions" should be practiced before the names of any Parts of Speech are communicated to the pupil.

10. A great deal of time is often wasted and hand-writing spoiled by doing too many grammatical exercises on paper, especially where grammatical abbreviations are not allowed. Answers that can be given orally in a very short time occupy much space, and involve much weary and unprofitable repetition.

The written exercises should therefore be few, in comparison with the oral; and before a written exercise is allowed, the teacher should write out several model exercises, showing how to arrange the answers, how to economize space, and how to save needless repetitions.

11. In Elementary Grammar, although the book may call attention to anomalies early, for the sake of completeness and logical order, the teacher should omit them at first, recurring to them afterwards. For example, in introducing the pupil to Adjectives, the teacher should at first speak only of the class of words that tell us *the kind of thing*. Afterwards he may mention other Adjectives, such as Numeral, Demonstrative, etc.

12. In order to impress upon the pupil that the Part of Speech always depends upon the Function of the word, *i.e.*, upon what the word *does*, it will be useful to show him by instances that the same word may often belong to different Parts of Speech in different sentences. In illustration of this rule, the pupil should be taught to parse sentences containing "before" and "after," used now as Prepositions, now as Adverbs, now as Conjunctions.

13. In the higher Grammar, special attention should be given to sentences containing Relative Pronouns. In such a sentence as "The cat that killed my canary was black and white," a boy will naturally think the verb "killed" more important than the verb "was"; and so undoubtedly it is, so far as the canary and its owner are concerned. Hence, when the boy applies the familiar rule, "To find the Subject of a Verb, ask the question, Who? or What? before the Verb," he will naturally say, What killed my canary? The cat. Therefore "cat" is the subject of "killed."

To guard him against this error (which is extremely common) he must be warned that:

Rule.—*Whenever there is a Relative Pronoun in a sentence, two verbs should be parsed before the Subject of either is written down.*

He will then ask not only, "Who killed?" but also, "What was black and white?" The cat. Therefore "cat" is the subject of "was." Hence he will be led to rectify his error, and to see that the subject of "killed" is the Relative Pronoun "that."

The omission of the Relative must also be noted on such sentences as, "Where is the book I lent you?"

14. The distinctions between the Participle and the Verbal Noun should be carefully taught (1) "*Walking* on the ice, I fell," and (2) "I like *walking*."

15. The distinctions between different kinds of Infinitives, *e.g.* (1) "I like *to walk*;" (2) "I have come to Switzerland *to walk*;" (3) "The physician advised me *to walk*;" "The general ordered him *to be put to death*;" "She taught me *to sing*."

16. One negative caution may be given. In teaching Grammar, it ought not to be the teacher's object to enable the pupil to *speak* English, but to *understand* it.

To speak English, he will best learn by speaking and reading it, not by committing to memory lists of irregular words, mostly of foreign origin, such as "cherub," "cherubim," "appendix," "appendices," "locus," "loci," etc.

Such words as these, boys will either never use, or they will learn to use them by hearing others use them; and those who use them intelligently (by whom alone they should be used) for the most part use them correctly.

On the other hand, the confusion of the parts of the two verbs, *lie* and *lay*, is very common in some classes of boys; and the misuse of the Past Indicative and the Passive Participle of *sing*, *drink*, etc., is not much less common.¹ Attention to real existing grammatical errors of this kind is by no means misplaced.

17. As to the Analysis of Sentences, the best and most obvious kind is that which shows how every sentence that is complete in itself can (however complicated) be reduced to three or four parts: (1) a Verb; (2) a Subject, with an adjective or adjectives; (3) one or more Adverbs; (4) an Object, with one or more adjectives. Thus:

<i>The horses</i>	Subject.
<i>that had been caught by our soldiers</i>	Adjective.
<i>being (i.e., since they were) unable to find pasture,</i>	Adverb (Cause). ²
<i>were slain,</i>	Verb.
<i>by orders of the general,</i>	{ Adverb (of Cause or Circumstance).
<i>in order to supply food to the starving citizens:</i>	
	Adverb (of Purpose). ²

¹ "In a certain part of England," writes Preceptor, "not far from the center of the national life, it is very common, at public dinners, to hear a speaker thank the guests for having so very cordially *drank* his health; and, in the same region, not only hens, but boys, and even men, are in the habit of *laying* upon the grass."

² As it is often difficult to determine whether an Adverbial phrase represents circumstance, cause, instrumentality, agency, or purpose, it will probably be best to let the pupil omit distinctions of Adverbs.

49. THE IRREGULARITIES OF ENGLISH IDIOM.

(For advanced pupils.)

Into this subject the pupil would not enter until he had reached at least his twelfth or thirteenth year; and some may think that for those intending to learn Latin or Greek attention to the irregularities of the English Language may be unnecessary.

But there is one respect in which a pupil's native language far exceeds others in the mental training it affords through the elucidation of idiomatic difficulties. Every irregularity arises by deviation from some regularity. Having at command the regular construction from which the deviation has arisen, a native possesses some at least of the *data* for determining the causes of the irregularity. In Latin and Greek a boy may be unable to analyze an irregular idiom for want of this knowledge; in English, for an English boy, this obstacle will, at all events, be absent.

The following are the principles upon which the pupil should be taught to analyze idiomatic difficulties. Ascertain the regularity from which the irregularity is derived, whether it be:

(1) Desire of brevity.

(2) Confusion of two constructions.

(3) Desire to avoid harshness of sound or construction.

(1) "He loved her *as* his own daughter," *i.e.*, "as (he would have loved) his own daughter" (Brevity).

(2) "All of us remonstrated." This is illogical. You can say "some, many, none, few, ten, one, *of*, *i.e.*, *out of* or *from* us, remonstrated," but you cannot logically say "all *of* us"; you ought to say "all we," as in the Bible, "all we like sheep have gone astray."

But the much more common idiom with "*of*," as in "one, two, three, four, etc., *of* us" has been *confused* with "all *we*," and the result of the confusion is "*all of us*."

"Confusion" is the most common cause of irregularities of construction in the English Language, as in many others, and it may be illustrated by the common tendency to confuse together any names or titles that have any similarity. Thus, suppose there are two Dictionaries, one by "Liddell and Scott," the other by "Lewis and Short"; if a boy speaks, by a slip, of "Liddell and Short," or "Lewis and Scott," it is an error of *confusion*; and how very common such errors are we all know. But it is this same confusion applied to syntax which has produced most of the irregularities of language.

(3) "It is you that say so."

Here the regular construction would be "It that says so is you."¹ But first the desire (iii.) to avoid the harsh emphasis laid on "it" causes a transposition "it is you that *says* so."

Secondly, this sentence is (ii.) confused with the straightforward

¹ Compare "Thou art *it that* hath cut Rahab."

statement, "you *say* so," and the result is the irregular idiom, "It is you that say so."

With these two keys of Syntax, viz., "Brevity" and "Confusion," occasionally adding the use of the key "Euphony," a student may open a multitude of idiomatic mysteries, in English as well as in other languages.

50. MEMORY.

The memory in some children appears to be much stronger than that of men, in others, it seems weaker, and a few seem to have scarcely any power of learning anything by heart.

The words "appears" and "seems" are used deliberately, because in many cases what appears to be a naturally defective memory is really a fair memory spoiled by defective training, and capable (if taken in hand not too late) of regaining some of its original power.

1. Memory may be cultivated by training a child from the first to do one thing at a time, or, in other words, by cultivating in him the habit of *Attention* (see § 4).

2. A memory may also be strengthened by cultivating the faculties of *Imagination* and *Association*, so that the child may readily call up *images* of the things which he hears described, and afterwards may recall thoughts by *associating* them with these mental pictures. For example, if a child is taught to associate the youth of Francis Bacon with the apt reply which he is said to have made to Queen Elizabeth's inquiry about his age, that striking association will readily enable the pupil to remember the date of Bacon's birth.

3. A serviceable memory will obviously be strengthened by *judgment* and the faculty of *selection*, which will enable the child, when reading or hearing about any facts that may be described as "central," to eliminate many details of little importance and to select those circumstances which are essential or important, clustering them round their appropriate centres.

4. Every one knows that memory is strengthened by *repetition*.

5. Memory is probably not much affected by the will in any direct way. It is doubtful whether any one can remember the parts of a Greek or Latin verb by greatly desiring to remember them. All that the will can do seems to be of a preliminary and negative nature. A boy, while learning his Greek verb, can *will* not to listen to the jokes of his companions, or to an organ-grinder in the street; and in some boys the will is entirely, in others only partially, able so to exclude distractions as to let him concentrate all his attention on the matter in hand. The rest must be done by the process of repetition. Attention and repetition enable him so to associate the forms of the verb together that one calls up the other, and in the end *amo* readily suggests twenty or thirty other forms; so that indirectly the will helps the Memory, by fostering and protecting it.

But in a direct way the will appears to do nothing for the Memory;

and the boy who—instead of thinking about the similarities and dissimilarities of *am-o, -as, -at, -amus, -atis, -ant*,—is simply *willing* to learn his Latin Verb, in order that he may escape punishment or gain reward, is really taking his thoughts off that which should be the object of them, defeating himself, and harming, not helping, Memory. For this reason, teachers must not always treat children that cannot remember as though they did not “wish to remember.” Any child, even the laziest, would wish to remember rather than to forget and be punished. The fault lies very often not in the will, but in the interest.

The truth is that we remember best by no means those things which we desire to remember, but those things which (1) present themselves to us from the first in the most interesting or incisive form, or (2) are impressed by constant repetition.

As for the power of repetition, one illustration is sufficient. No one finds any difficulty in repeating the Alphabet forwards, while very few could repeat it backwards. Logically, one order should be as easy as the other; but, in practice, one order is so common and the other so rare, that the former seems to come to us by second nature, while the latter always implies an effort.

But few teachers understand the importance of “the first impression” in matters of Memory. A word that takes the ear and is clearly pronounced, such as “Mesopotamia” will have a much better chance of being remembered than shorter and less euphonious words, inarticulately uttered.

“Above all things,” writes Preceptor, “avoid blurred impressions. When Dr. Johnson (a man of singularly wide and retentive memory) heard a person’s name for the first time, he would always repeat it, and generally spell it over to himself. If people of less powerful memories adopted the same habit, they would probably find it more easy to remember names. But it is often too late to do this when you have once formed a blurred impression. You hear a person, say, of the name of Robson called ‘Mr. Robson’ or ‘Mr. Robinson,’ you are not certain which, and you do not at once take the trouble to ascertain which; unless some striking inconvenience forces you to remember that it is ‘Robson,’ and not ‘Robinson,’ you may go on for years occasionally meeting the man, and not unfrequently talking about him, and yet always in doubt between the two names.”

The following suggestions may therefore be useful for helping children in performing memory-tasks.

(1) Let the child learn them when he is at his freshest, and not too tired to be interested and receptive.

(2) Before the task is learned, go through it with him, reading it incisively, and explaining difficulties.

(3) Divide it into parts; and, if possible, point out a connection between the parts.

Even when no connection can be established, the division into parts is a most important preparation for a memory-lesson. How hopelessly the child looks up at the stars, thinking that no one can ever master their relative positions! Yet let the child begin with Charles's Wain, and then draw lines from this to the Pole Star and to others, and he will find that, by dividing the stars into "constellations," he speedily acquires a knowledge which he would have thought impossible. The same rule holds for the memory of other things (§ 6). As the teacher's motto is "Divide and teach," so should the pupil's be, "Divide and remember."

(4) Let there be sometimes an interval of a night between the teacher's explanation and the pupil's learning, so that there may be time for "unconscious cerebation,"—a power which all teachers must recognize.

(5) In some children, what may be called the sound-memory is most powerful, in others, the sight-memory. It is well to utilize both. To be compelled to learn a memory lesson in a schoolroom where silence is enjoined is a severe restriction for children in whom the sound-memory is strong.

6. In learning rules for which it is difficult or impossible to give children intelligible reasons, there seems no reason why recourse should not be allowed to artificial associations, such as rhyming verses. For lists of exceptional genders, such a help appears quite justifiable. The rational faculty, having no province here, cannot be supposed to have its sovereignty weakened by the appeal to mere memory.

7. But in learning dates it is probably best to trust mainly to the reason. The verses or other means sometimes adopted for impressing dates on the memory have these disadvantages: 1st, that they are generally either long or else arbitrary; 2d, that they take up so much attention as to indispose the boy for appealing to his Reason.

Again, the artificial system is not progressive. For if a boy relies on *Memoria Technica*, he requires separate artificial helps for every date in the history of every nation; but if he learns by heart a few important dates, and gradually clusters round these, as centers, a knowledge of groups of less important incidents, he will gradually form a kind of star-map of chronology, which will be of some value to him as a mental training, besides the utility of the information. Should the *Memoria Technica* unfortunately vanish from the brain, every vestige of information vanishes with it; but, even though he may forget the precise date, the boy who has appealed to his reason may remember that Mohammed, for example, began to gain followers at the commencement of the seventh century, that the Saracens invaded Spain early in the eighth century, and that Charlemagne, who drove back the tide of invasion successfully, was crowned emperor at the beginning of the ninth century.

But the use of Reason ought not to prevent the careful learning by heart of some of the more important dates, and these ought to be

repeated over and over again till they are indelibly impressed on the memory.

8. In answer, therefore, to the question, What should be learned by heart? the answer will be: Learn (*a*) things that cannot be recalled by the reason, *e.g.*, lists of genders, tables of weights and measures; (*b*) things that need to be recalled more quickly than the reason will recall them; (*c*) things that could not readily be recalled in so exact or so fit a shape by the reason as by the memory, *e.g.* Euclid's Axioms, the verses of poets, etc.¹

In other matters, the appeal should be made not to the Memory, but to the Reason; and the pupil should be encouraged to answer questions on History, Algebra, Geometry, Arithmetic, not in the words of the book, but—so far as he can with accuracy and fitness—in his own words.

9. A memory-lesson, if learned at all, should be thoroughly learned. After two or three lessons, the whole should be revised; and constant revision should be practiced till the pupil is quite familiar with it.

10. In order that a child may remember, he should have intervals for reflection. The brain is bewildered and wearied if it is hustled from one subject to other subjects for many hours together, all novel, and all requiring sustained attention. Play gives rest from work, but not time for reflection. For this reason, in day-schools, a daily walk to and from school is of great value for the strengthening of the memory.

51. REPETITION OF POETRY.

The repetition of poetry is important because, besides strengthening the memory, it enriches the vocabulary, enlarges the imagination, and improves the sense of rhythm.

1. *Choice of passages.*—In selecting a passage to be learned, the teacher must remember that it is not the language of poetry, but the *thought*, that for the most part creates difficulties for children. We must not fancy that long words in poetry repel boys that can read fluently. Poetry, by its very nature, is averse to lengthy, technical, and abstract terms, such as create difficulties in prose. But the *subject-matter* of poetry is very often altogether above the heads of children, though expressed in the simplest language. The *In Memoriam* is written mainly in monosyllables; yet there is in it little which a child could thoroughly understand; and for a young boy, ignorant of the meaning of the "loss of friends," and wholly unable (so Nature has decreed it) to realize the meaning of death, it is impossible really to understand (and not desirable that he should be forced to appear to understand) even the following simple stanza:

"This truth came borne with bier and pall,
I felt it when I sorrowed most,
'Tis better to have loved and lost
Than never to have loved at all."

¹ See Fitch's *Lectures on Teaching*, p. 135.

But give a boy a piece of description, narrative, or stirring incident, and you will find that long words will create little difficulty. Such passages may be found in the well-known *Original Poems*, *The Ancient Mariner*, Howitt's *Birds and Flowers*, Macauley's *Lays*, and Scott's Poems; but a careful selection might also extract some passages, intelligible even for the very young, from Milton's description of the *Creation*, Shakespeare's *Julius Caesar* (and perhaps the *Coriolanus*), the story of Orlando rescuing Oliver in *As You Like It*, some of the Choruses in *Henry the Fifth*, and the description of the hunting of the hare (*Poor Wat*) in the *Venus and Adonis*, to which might be added the larger part of Milton's *Allegro* and *Penkeroso*. I lay the more stress on Shakespeare and Milton because early familiarity with them, next to the Bible, has more power than the study of any other author to develop a sense of rhythm.

2. *Preparation*.—Having selected your passage, you must then read it to the pupil in such a way as to interest him. Explain difficulties, ask and answer questions; and (if there is leisure for it) draw out from the pupil, by a series of questions, a narrative containing the substance of the passage to be repeated.

In doing this, be careful to dwell on the "joints" or transitions of the narrative, always connecting each new part with the part before, so that the whole chain may be in the pupil's mind in such a way that each link may suggest the next. Never let the child try to keep in his mind three links together. *Two at a time are enough*.

By voice, action, and suggestion, try to call up before the child pictures corresponding to the language.

3. *The First Repetition Lesson*.—It is very important that a child should be taught at the very beginning to assume, as a matter of course, that he can repeat poetry; and consequently the teacher must spare no pains to make the first lesson a success. The effects of failure here are so disastrous that it seems worth while to set down in full the somewhat quaint and lengthy description given by Preceptor of a First Repetition Lesson.

"I assume," he says, "that the child may have picked up a few nursery rhymes, but that he has not yet learned a continuous passage: and we are now to begin. I select a piece of Jane Taylor's, called 'The Pond,' describing how a disobedient chicken, attempting to swim in spite of her mother's commands, was drowned. After reading it over, I reject the second and third stanzas for the present, because the author speaks in her own person, and breaks the simple course of events; I also reject the last, because it contains no incident, and a moral expressed in language somewhat too elderly for my young pupil of five or six.

"Having mastered the first stanza so that I am quite sure I can repeat it myself, I turn the conversation, one morning at breakfast, on ponds;

and putting my saucer before the child, I say, 'I remember a pretty tale about a pond; it begins like this:

" 'There was a round pond, and a pretty pond too,'

Here I draw my finger once or twice round the saucer:

" 'About it white daisies and violets grew,'

Here I call up the salt-cellar to represent the 'daisies,' and anything else to represent the 'violets':

" 'And dark weeping-willows, that stoop to the ground,
Dipped in, their long branches, and shaded it round.'

Here I slope two spoons or forks over the saucer, and bend them over to represent the 'willows.'

"If the child is sufficiently interested, I repeat this pantomime; and there, for that day, the matter ends. Next day the same is repeated, and either then or afterwards, when I feel sure the child has grasped the lines, I say, 'Now, you do it,' and I put the 'pond,' the 'violets,' and the 'willow,' *i.e.*, the saucer, salt-cellar, and spoons, ready for him to manipulate.

"If this stanza is correctly repeated (as it was by my youngster) the battle is won. What follows is an easy task. After the lines have been several times repeated, and are quite mastered, I let drop the remark that the story goes on to describe how a disobedient chicken came to this pond and watched the ducklings swimming in it:

"How the Chicken comes and watches the Ducklings swimming in the Pond.

" 'One day a young chicken, that lived thereabout,
Stood watching to see the ducks pop in and out,
Now splashing above, and now diving below,
She thought of all things she should like to do so.'

The first two stanzas must now be several times repeated, together with their titles. First, let us have 'The Pond,' now, 'How the chicken comes and watches the ducklings swim in the Pond.' We can then introduce a third title, thus: 'After the chicken watches the ducklings, the story tells us how the chicken determined to try to swim'; and the *second and third* stanzas must be repeated together, the third being as follows:

"How the Chicken determined to swim.

" 'So the poor silly chick was determined to try;
She thought 'twas as easy to swim as to fly;
Though her mother had told her she must not go near,
She foolishly thought there was nothing to fear.'

We continue, 'After the chicken had determined to disobey her mother,' the story goes on to tell:

"What the Chicken said in excuse for her disobedience.

" ' "My feet, wings, and feathers, for aught I can see,
As good as the ducks' are for swimming," said she;
"Though my beak is pointed, and their beaks are round,
Is that any reason that I shall be drowned? " "

A revision may now be desirable, and when the above four stanzas

have been revised, we shall omit the next stanza, which prolongs the chicken's excuse, and continue, 'After the chicken had excused herself,' the story goes on to tell:

"How the ignorant creature flew into the water.

"So in this poor ignorant animal flew,
But soon found her mother's cautions were true;
She splashed and she dashed, and she turned herself round,
And heartily wished herself safe on the ground.'

The last stanza is introduced by saying that 'After the chicken had flown into the pond,' the story tells us:

"How she was drowned.

"But now 'twas too late to begin to repent;
The harder she struggled the deeper she went;
And when every effort she vainly had tried,
She slowly sank down to the bottom and died.'

We shall now revise the last three stanzas, the Excuse, the Leap into the Pond, and the Drowning. Finally, we shall practice the child in repeating a rapid summary of the whole poem, viz., the Pond, Watching the Ducklings, the Determination, the Excuse, the Leap, the Drowning."

Much of this detail will seem to many grotesque or superfluous; but we have given it in full, partly because we understand that it contains the record of a lesson which has actually proved successful, partly because many parents or tutors may be desirous of trying this same exercise themselves as a first lesson in continuous repetition, and partly because Preceptor's experience is certainly based on, and clearly exemplifies, two important principles of memory: first, division; second, what may be called the linking system. First, the poem was *divided* by the teacher into sections; secondly, each section was *linked* with the one following it.

The professional teachers of systems of Memoria Technica are well acquainted with the "link-system"; and a string of nearly a hundred names (but carefully selected by the Professor with a view to the natural association between each pair) can sometimes be repeated by boys who, after once hearing it, observe the precept "never to think of more than two at a time." But the applicability of this system to verse-repetition is not so clearly recognized, and requires to be enforced.

For young children we need poems, or (better) songs, of a livelier kind than the Pond, but rather longer, and perhaps with a little more purpose, than the ordinary nursery rhymes. The songs of Froebel are too German for our children, both in the thoughts and in the allusions; but they are on the right lines, and it is to be regretted that we have at present nothing that can quite fill their place. Such poems should be accompanied by action, and if sung and acted by a large number of children together, they ought to be most usefully stimulative for dull children in whom the power of Association is naturally weak.

Cautions.—Two cautions are needed in the exercise of young memory.

1. The teacher must not expect that the child's memory will always retain its original strength. As the judgment strengthens, the memory weakens; and this is true not only of phenomenal memories (such as are recorded in "calculating boys"), but also of ordinary boys and girls.

Where this is the case, the teacher must be quick to discern it, and make allowance for it. But it is a good plan to cover a good deal of ground while the memory is young and strong, and as soon as the child has attained to the understanding of passages worth permanently remembering, to practice him in constant revision of old lessons. A good deal will inevitably slip away; but much that is of lasting value will thus remain.

2. Possibly copious repetition may be found, in some children, incompatible with *good* repetition; where, by "goodness," is meant, not accuracy, but excellence of elocution. The reason is, that it is difficult to find many passages worth permanently remembering, with which a child can so identify himself as to repeat them naturally and forcibly. A "permanent" passage of poetry will contain thoughts fit for men; and a boy, finding them unfitted for him, naturally repeats them as though they were not his, and falls into a monotone, or, at all events, fails in giving the words their due modulation. For boys, therefore, a permanent passage is generally most easily selected from serious poetry, where no great height or depth of passion is touched, and where an even modulation is not out of place, as in Milton's *Creation*, or the 104th Psalm in prose, or the 107th.

A good deal could be done (it is true) for elocution if you could secure that the child should never hear bad reading or elocution. Still, with some children, anything like acting is a physical impossibility; they shrink from it with a dislike which, being often associated with a just reserve, strength of character, and self-respect, deserves itself to be respected. Therefore, while requiring clearness and encouraging spirit, a teacher ought not to expect all children to show much elocutionary execution. But distinctness, at all events, may be enforced; and for this reason the pupil, when reciting, ought to stand at a considerable distance from the teacher.

52. FRENCH.

1. French should be begun between the age of six and seven, and, in any case, before Latin; partly for the sake of the French, because French can be better taught at home than at school; but partly, also, for the sake of the Latin, because, by beginning with French, a spoken language, the pupil acquires a sense of the utility of linguistic study generally, and is more likely to approach Latin, not as being a mere collection of Vocabularies, Declensions, and Conjugations, but as a language, if not to be spoken, at least to be read and used.

2. The first lessons in French should be oral. If a child begins with book-lessons, he is almost sure to trust for his pronunciation more to the book than to the teacher, and so he begins at once to pronounce badly. But if he learns his first French words *only from his teacher's lips*, he cannot (at least as the result of reading) pronounce the x in "deux," or the s in "nous" before a consonant, or leave them out before a vowel, for he does not know that the x and the s are there. For some time no attempt should be made to appeal to the Reason. Phrases, not separate words, should be taught, and no explanation should be given of grammatical structure. In the course of these sentences, the pupil must be told that among intimate friends in France "thou" is used instead of "you," so that the teacher may freely introduce the forms of Verbs in the second person singular.

3. These early phrases and short sentences should be such as to require a frequent repetition of the more common forms of the verbs "avoir" and "être"; and when the pupil is familiar with a great number of these, he may be called on to construct out of his store the Present Tense of "avoir." Then for the first time he may be told to write down these forms, and to note how greatly the pronunciation, to which he is now accustomed, differs from that which would appear to be pronunciation to an English boy reading French words without guidance; and now for the first time some rules of pronunciation may be given to him.

4. The pronunciation of the French *u* and of some of the nasal sounds will always present difficulties to English boys; but more might be done than is done at present to prevent boys from introducing English accent into French.

"I remember," says Preceptor, "being told, as a child, that I should not be able to read French correctly till I could repeat "le malade imaginaire" without laying the slightest accent on any syllable, as though it were 'le-ma-lad-im-ag-in-aire'; and for practical purposes this precept is very useful, as an antidote against the ordinary pronunciation, 'le mállard, or márlard imáginnaire.'"

But when teachers try to put this rule in practice—say in the repetition of a Fable of La Fontaine—they will find it not so easy as it seems. For whereas Englishmen use much accent, but little modulation, Frenchmen compensate for their almost complete absence of accent by an abundant modulation, which would sound to English boys "sing-songy" and absurd. It follows that when English boys read La Fontaine without accent *and without modulation*, the effect is flat in the extreme; and teachers who may succeed in repressing English accent will mostly fail in inculcating, or never try to inculcate, French modulation.

However, what cannot be done in a class, where boys are deterred by the fear of "making themselves ridiculous" before their school-fellows, may be done much more easily with two or three private pupils;

and one reason for the early commencement of French is that a foundation of good pronunciation can be much more easily laid at home than at school.

5. The French names of Past Tenses given in most text-books are inconsistent with the terminology which the pupils will afterwards learn in Latin and English. In English the pupil is told that "I have spoken" is the Complete Present (or Perfect), and that "I spoke" is the Indefinite or Simple Past; but in French "*j'ai parlé*" is called the "Preterite Indefinite," and "*je parlai*" the "Preterite Definite."

If the names of the French Tenses are retained, it seems best to make no attempt to explain them; for though they can be explained, the nomenclature proceeds on less intelligible and symmetrical principles than those which regulate the names of the English Tenses.

In settling questions about Tenses it is not always necessary to trouble the pupils with the technical names of the Tenses. For their knowledge of the Tense can often be tested by asking them to "translate into French I have spoken, he will speak, you were speaking," etc.

53. LATIN.

1. *When to begin Latin.*—With a quick boy, Latin may be begun at the age of six-and-a-half or seven; but if a boy is in the country and amid circumstances which give him abundant opportunities for healthy exercise and amusement, it would probably be better to delay the study till ten. In towns, it is difficult to know how to fill a young boy's time without Latin. At seven years of age, he is not old enough to study history with any advantage; geography and chemistry, if imparted to him so young, will not be found to remain in him; and Arithmetic, French, and English are hardly sufficient to occupy his time. If opportunity allows, he might be taught something of botany and music; but where a boy of seven is healthy, lively, and interested in his studies, and is making sufficient progress in French and Arithmetic with two hours of work a day, it seems not premature to let him add a daily half-hour of Latin. After a week or two, a half-hour may be taken from French and given to Latin, so that he may be inspirited in his new study by the sense of rapid progress.

2. *The "Double System."*—Undoubtedly the best way to teach Latin is to enable the pupil, in his very first lesson, to utilize his knowledge so as to turn English into Latin, as well as Latin into English.

"As a boy," says Preceptor, "I had the experience of being trained for a time on what used to be called 'the Hamiltonian system,' and then on the old Grammar system, which taught a great mass of Accidence and Syntax before giving the pupil any opportunity of utilizing his knowledge; and as a teacher I taught Latin (for about ten years) on what is called 'the Crude Form system'; but I am convinced that none of these work so well as the 'Double System,' which makes the pupil 'give out' as fast as he 'takes in.'"

3. *Ambiguous Exercises*.—So far, then, Latin is to be taught like French, but it is also to be taught differently. For whereas the object of learning French is (mainly) to be able to speak and understand the language and literature, the object of learning Latin is (mainly) to strengthen the Reason and Judgment. Hence, whereas we began by teaching French without any appeal to Reason, in Latin the Reason must be called into play from the first.

Few text-books sufficiently recognize the necessity of early exercises which shall compel the pupil *from the beginning to use Reason*; but they can be easily composed by the teacher himself. They may be called "Ambiguous Exercises," and can be employed in the very first lesson. For when the pupil has learned by heart "Insula" or "Dominus," he should be at once required to translate into English, "insulæ," "domino," "insulis," etc., having been forewarned that "whenever Latin words are susceptible of two or more renderings, two or more must be given."

4. *The Cases*.—The force and use of the Cases should be explained as soon as they are introduced to the pupil's notice.

Some of the *names* of the Cases, *e.g.* Accusative, are so inherently absurd that no attempt should be made to explain these. The teacher should simply content himself with explaining their use.

But it may be at once pointed out that the Ablative, "besides always expressing (1) the *instrument* by or with which an action is performed, also sometimes expresses (2) separation, *motion from*, or *ablation*," and this should be illustrated at once by an example: *The woman frees the daughter from blame*; *Fēminā filiā culpā libērat*.

By this means the boy is warned from the first that when you say *by* or *with* in connection with the Ablative Case, you do not use *by* in the sense of *near*, nor *with* in the sense of *along with*, and thus he is enabled to avoid much unnecessary confusion and bewilderment caused by the ordinary method of learning the Cases without explanation of their force.

The early introduction of the double meaning of the Ablative enables the teacher to introduce, in the very first week of learning Latin, such an ambiguous sentence as "*Nautae dextrā fēminam viōlentīā libērat*," which may be rendered, "The sailor's right hand liberates the woman"—either "by violence"¹ or "from violence," so as to oblige the pupil at an early stage to realize the necessity of pondering and judging before he decides on the meaning.

5. *The Discouragement of Guessing*.—The exercises, and especially those from Latin, into English, should not be so easy as to be construed without thought. It is of the utmost importance in teaching Latin to

¹ The question whether "*viōlentīa*" (a particularly useful word in early exercises) would be used in Classical Latin to represent "by violence" in precisely such a sentence as this is a refinement that need not trouble us at this stage; yet the teacher will do well, even at the outset, to avoid any glaring violations of the best Latin usage.

force the pupil at the commencement of the study to distrust any inferences as to the meaning of a Latin sentence derived from the order of the words.

"For a very long time," writes Preceptor, "(in the course of a weekly entrance examination of a most elementary kind) I have been in the habit of asking those boys who profess to have learned Latin—almost all of whom are over thirteen years of age, and have learned Latin two, three, four, or five years—to construe the sentence, 'Oppida magna boni agricolæ habent,' and not one in five has been able to construe these few simple words correctly. Such a translation as, 'They have the great towns of the good husbandmen,' would have been treated as satisfactory, because logical; but almost all have succumbed to the temptation of regarding 'oppida' as nominative 'because it comes first,' and they have then rushed to the conclusion, in despite of Cases and Grammar, that the meaning must be 'Great towns have good husbandmen.'"

This is the natural consequence of setting boys too easy exercises at first—exercises in which the paucity and order of the words, combined with the simplicity of the idioms, encourage a boy to jump at the meaning without troubling himself to think. The method is intended kindly; the teachers wish not to discourage the boys at the start by too difficult tasks. But it is not real kindness. The kinder plan would be to discourage jumping at once, not only by giving each boy a light and portable ladder, but also by making the wall so high that jumping shall either not be attempted, or shall result in an inevitable and retributory fall.

6. *Reasons for Rules.*—Since Latin is to be taught by an appeal rather to Reason than to Memory, the reasons for all rules should be given, so far as is possible.

Some rules—such as the rule which forbids the use of "neminis" and "nemine," and many of the rules and exceptions relating to genders—cannot be explained, and must be simply learned by heart. But many others can be, and should be, explained; and, in particular, the rule of Sequence of Tenses—which is sorely perplexing to those boys who have failed to grasp the difference between the English and Latin Tenses—can be made so easy and intelligible by a clear exposition of the force of the English "Complete Present," and of the wider use of the Latin so-called Perfect, that it is nothing short of cruelty to withhold the explanation.

7. *Recapitulation.*—The pupil should learn to turn his English Exercises into Latin not only in writing, but also orally and fluently.

A good First Latin Book ought to contain so much that the teacher should be able with advantage to make the pupil repeat the old exercises again and again, each time improving in fluency. It should also have appended a copious store of recapitulatory exercises, to test those too mechanical boys who succeed pretty well when they are "doing".

one particular Rule, but fail when they are set to work in broader fields. The object should not be to cover a great deal of ground and to get through the book as soon as possible, but to get a firm grasp of first principles, and to combine accuracy with the habit of thinking. *Non multa, sed multum* should be the motto, and the exercises may very well suffice for two years, and may be continued into the stage when the pupil has begun to construe some author.

8. *Aim at the Future*.—Yet, while accuracy should be rated very high, perfect and machine-like accuracy should not be exacted at the cost of real progress and interest.

The teacher should remember, when he finds a boy, at the age of eleven or twelve, making an occasional mistake about a gender, that this boy will continue Latin, probably, till the age of sixteen, and, in many cases, till nineteen, or longer. Five or seven years of future practice ought, therefore, to be taken into account when the teacher considers the object he wishes to attain and the means of attaining it. We are to work for the future, not for the present. The race is to be a long one; and we are to set our minds not on getting over the first hundred yards as rapidly as possible, but on reaching a goal that lies a long way off, the attainment of which will require sustained interest as well as steady labor. A mistake about gender is not so serious a fault as a mistake of judgment. It concerns not the Reason, but the Memory. If these mistakes do not gradually disappear, we may naturally suspect that the pupil is either singularly deficient in memory, or is not giving his mind to the work; and, in that case, some special drill or animadversion may be needed. But if progress in accuracy is perceptible, we need not be uneasy because it is not instantaneous. A year or two more may perfect "the Genders."

9. *Latin Poetry*.—Latin Elegiac verse is so much simpler in its construction than Latin Prose, that it is probably advisable to introduce children to Ovid as their first Author.

But, if this is to be done, some little preparation is required, to teach them a few of the differences between the thought and language of poetry and prose. The best plan is to construe twenty lines aloud with them, pointing out these differences, as you meet examples of them; showing, for example, the terseness of verse, its aversion to adverbs, to conjunctions, to pronouns, and the means by which it dispenses with these parts of speech, thence proceeding to the picturesqueness of poetry, its use of epithets, and of what are called "figures of speech," its love of inversions and varieties, and the like. How much of this preliminary teaching should be given must depend upon the age and disposition of the pupils.

On this point Preceptor's experiences may be of use. "When I was a boy," he says, "I remember spending more than ten minutes over 'Arma virumque cano,' because I had never found 'cano,' in my experience of prose exercises, used to mean 'sing of,' and my poor diction-

ary of those days happened not to give this meaning. My teacher, by way of meeting my difficulties, quoted, in a sonorous voice, from Dryden, 'Arms and the man I sing,' and asked me what was the difficulty in this? To which I responded, with all the conceit of boyhood and ignorance, 'It is not English. You can say, "I sing a song," but you cannot say, "I sing arms."' Although my answer was, in point of fact, indefensible, and, in spirit, priggish, it expressed the truth, so far as my experience went. I had never read Dryden's 'Arms and the man I sing,' nor Cowper's 'I sing the sofa'; and I still think that it would have been better for me, if my teacher could have taken me with him, step by step, on my first excursion into poetic realms, thereby saving me much fruitless wandering and many painful experiences of the brambles of metaphor, the quagmires of hyperbole, and the intricacies of poetic diction."

Preceptor is probably right in thinking that an introductory lesson of this kind would be of great benefit to most pupils. No doubt, we must avoid telling boys too much, and leaving them too little to find out for themselves. We are not to keep children always in leading-strings, making them helpless and dependent on the teacher. But this mischief could hardly result from one or two such introductory lessons as have been described above. And they might, in many cases, set a too literal boy on the right lines of thought, releasing him from clouds of perplexity, and enabling him to appreciate and enjoy as beauties many things that ordinary boys are apt to consider as hateful pitfalls spitefully inserted in their works by the great classical authors for the express purpose of bringing English boys to grief.

10. *Cæsar* is a somewhat difficult author; and short extracts from Phaderus, Livy, and even Cicero, may well be used first. But the subject-matter of *Cæsar*, his freedom from allusions, his pedestrian, matter-of-fact style, the limited compass of his history and range of his thoughts, all combine to make him a better author for young boys (to be studied in an entire book) than Livy or Cicero, or (with deference to those who differ) than Nepos. In any case, when the teacher comes to *Cæsar*, he may do much that is not done at present to make that author easier. And here, as *Cæsar* is largely read by beginners, and as the object of this book is to afford practical suggestions to teachers, I shall offer no apology for presenting some rather detailed remarks by Preceptor as to the method by which a book of *Cæsar* may be made at once more instructive and more easy than it is at present.

"Select," he says, "from the book to be studied, fifteen or twenty of the most difficult of the long sentences; exhibiting most prominently the ordinary complications that perplex boys—abundant conjunctions, the idioms of *Oratio Obliqua*, sentences subordinate to others which are themselves in turn subordinate, ambiguous pronouns, and the like. Do not show these sentences to your pupils as yet; but take them to pieces, and show them the pieces separately. Then, by

degrees, put the pieces together, and make the boys help you in building up the complete sentence. Take, for example, the following complicated passage:

“ ‘Interim legatis tribunisque militum convocatis, et quae ex Voluseno cognosset, et quae fieri vellet, ostendit; monuitque—ut rei militaris ratio, maxime ut maritimae res postularent, ut quae celerem atque instabilem motum haberent—ad nutum et ad tempus omnes res ab iis administrarentur.’ ”

“ Beginning with the first part of the sentence, you write down on the blackboard in English, and make the pupils turn into Latin.

A. 1.—This (news) he had ascertained from Volusenus, and these (orders) he wished to be executed.

Haec ex Voluseno cognoverat et haec fieri voluit.

“ Then, pointing out that ‘et’ means ‘both,’ as well as ‘and,’ and that the Indicatives in A. 1 will be changed into Subjunctives when the sentence is made to depend upon a new Verb, in the construction of a dependent question, you bid them translate:

A. 2.—He showed them both what (news) he had ascertained from Volusenus, and also what (orders) he wished to be executed.

Et quae ex Voluseno cognosset et quae fieri vellet ostendit.

“ To this we wish to prefix the statement that—

A. 3.—Meanwhile he called together the lieutenant-generals and tribunes of the soldiers.

Interim legatos tribunosque militum convocavit.

“ This we shall do by turning the Verb in A. 3 into an Ablative Absolute, although the English will remain unchanged:

A. 4.—Meanwhile he called together.....*and* showed them both.....executed.

Interim, legatis tribunisque militum convocatis, et quae.....ostendit.

“ Here be careful to point out that the italicized ‘and’ in English does *not* represent the first ‘et’ in the Latin; the ‘and’ represents *the Ablative Absolute*; the word ‘both’ represents the first ‘et.’ ”

“ The first part of the sentence being now completed, we proceed to the second part, and bid the pupils turn into Latin:

B. 1.—Every order was obeyed by them as soon as given. (“ Here we must tell them that the Latin idiom is ‘administrare rem ad nutum et ad tempus,’ *i.e.* to perform a service at the nod (of the commander) and at the moment of the command.)

“ This is accordingly rendered:

B. 1.—Omnes res ab iis ad nutum et ad tempus administratae sunt.

“ Next:

B. 2.—He warned them to obey every order (or that every order should be obeyed by them) as soon as given.

Monuit ut omnes res ab iis ad nutum et ad tempus administrarentur.

“ To this we will now add the *reason* for the order, and say that:

B. 3.—Military operations (*lit.* the method of military action) (and) especially operations by sea require this.

Id rei militaris ratio, maxime id maritimæ res postulant.

“But to this statement about ‘operations by sea’ we wish to append our reason why the statement ‘specially’ applies to them, viz.:

B. 4.—Their movements are quick and uncertain (*lit.* they have a motion quick and uncertain).

Celerem atque instabilem motum habent.

“Appending B. 4 to B. 3, we might insert the conjunction ‘quia,’ because; but we prefer the idiomatic ‘ut quæ,’ ‘as being such as’:

B. 5.—Military operations, especially operations by sea, require this, because their movements are quick and uncertain.

Id rei militaris ratio, maxime id maritimæ res postulant, ut quæ celerem atque instabilem motum habeant.

“The next question is, Where shall we insert this ‘reason’ for the warning to obey orders at once. We might have added it at the end: ‘Monuit ut administrarentur—quia id rei militaris—haberent.’ But we prefer (1) to insert it in a parenthesis, in order to leave the warning itself to occupy an emphatic place at the end; and (2) we will insert it not as a reason given by *us*, but as a reason given by the *speaker* and as *part of his words*, striking out ‘id,’ and substituting the conjunction ‘ut,’ *as* or *since*.

B. 6.—He warned them—as was required by all military operations, and more especially by naval operations, in which the movements were swift and uncertain—that every order must be executed by them at a moment’s notice.

Monuit—ut rei militaris ratio, maxime ut res maritimæ postularent, ut quæ celerem atque instabilem motum haberent—(ut) ad nutum et ad tempus omnes res ab iis administrarentur.

“We merely add that the ‘ut’ before ‘ad nutum,’ which should regularly follow ‘monuit,’ may be somewhat irregularly dropped, the verb ‘administrarentur’ remaining in the Subjunctive as expressing a command in Oratio Obliqua. Nothing now remains but to connect A and B, by adding ‘que’ to ‘monuit’: ‘Interim . . . ostendit, monuitque—administrarentur’; and the sentence is now complete.”

If boys were thus practiced in building up sentences by adding (in the different shapes employed by the best Authors) causes, circumstances, obstacles, qualifications, amplifications, and the like, it seems probable that the synthetic process would be a useful supplement to the analytic process now commonly in use, and that our pupils would thus learn to write Latin Prose more easily, as well as to construe more intelligently.

11. *Virgil* is a difficult author even for men, and still more for boys. Yet, on the whole, it is advisable to teach *Virgil* to boys, because it is so much better worth studying and remembering than the easier poetry of *Ovid*.

The *Eclogues* are wholly unsuitable for all boys; and the *Georgics* are less interesting to most boys than the *Aeneid*. As a preparation for the *Aeneid* the pupil should read Dryden's translation or Mr. Church's *Stories from Virgil*, so that he may gain some notion of the plot. The teacher should then take two or three lessons, of not less than twenty lines each, aloud with his pupils, ascertaining their difficulties and meeting them as they arise, and gradually familiarizing them with Virgil's peculiarities of style.

As soon as the boy has mastered the construing of some fifty or sixty lines, he should commit them to memory; and the construing must then be carefully revised. Very soon the pupil will be able to prepare his lesson with little help; but for some time to come it will be well that the teacher, in setting the next lesson, should ask a few questions and give a hint or two bearing upon the difficulties of the morrow.

The repetition by heart should be continued throughout the book; and, if the pupil has a good memory, it will be very useful to make him not only read the whole of Dryden's *Aeneid*, but also commit to memory Dryden's version of that particular book which is under study. Thus the pupil's English vocabulary will be amplified, his grasp of English idiom will be strengthened (and there is no better author than Dryden as a corrective for boys, at the age when they are liable to be first infected by the Graecisms, archaisms, and other affectations now prevalent in modern English poetry); and he will not only be able to construe with much more force and spirit, but also to enjoy much more the literary beauty of Virgil.

12. *Repetition*.—As to repetition, it is too much to expect, of course, that a child should learn by heart all the Virgil that he construes; but, if he has a good memory, it will be well that he should learn one book, which should be constantly referred to, and constantly revised for two or three years. Then he may learn another in the same way. About two books of Virgil are perhaps as much as can be expected to be always kept up by a boy of good memory. The Second and the Sixth are, in the Author's judgment, best worthy of this close study and permanent retention.

The same principle should be applied to the learning of other repetition lessons in Latin, and also in other languages. Not much is gained by the repetition of a vast number of new passages which the pupil knows he need not recall, or, at all events, need only recall for some forthcoming examination. But let him understand that, whatever he learns, he will have to repeat years hence, and will enjoy and repeat with pleasure tens of years hence, and he will then insensibly adapt the effort of memory to these requirements.

Boys have a power of carrying a great mass in their memories for a short time, and then shaking it all off, so as to leave no trace of its existence; and, if they learn in this spirit, their power of forgetting is

truly marvelous. We must, therefore, without overstraining them, or giving them too much to learn, make them clearly see from the first that this is not the spirit in which they must approach repetition. For this purpose (1) we must choose only the very finest specimens of the literature; (2) we must give abundant time for hearing frequent revisions; (3) we must encourage the repetition of it, not as "lines," but as poetry, with force and grace; (4) we must hold out as a reward for successful industry, that when a certain portion is thoroughly mastered no more will be required during the whole of the term except the revision of what has been learned.

13. *Pronunciation*.—As regards pronunciation, something will depend upon the school for which the pupil is being prepared, and on the versatility of the pupil.

The syllabus issued by the Professors of Latin at the Universities of Cambridge and Oxford at the request of the Head Masters of Schools sets forth a scheme of pronunciation now published in many First Latin Books, and used in the highest forms of a few of the principal Public Schools, as well as in the majority of the High Schools for girls. But in the lower forms of Public Schools this pronunciation is not yet used, or only in a very few instances.

The teacher must therefore choose between the advantage of a method of pronunciation which is recommended by the best authorities as at least approximately correct, and which rapidly communicates to the pupil the "quantities" of the syllables, and, on the other hand, the possible inconvenience to the pupils in being compelled to change their pronunciation when they pass from the tutor to the school.

But for the hesitation of one or two Head Masters this system would probably be now in use among all the classical schools; and the next wave of reform in matters educational is likely to re-introduce it with general acceptance; but for the present it must be considered an open question. The Author's experience, however, has been that pupils taught on the new system can, without any difficulty worth mentioning, adopt the old when needed, while retaining much advantage from their knowledge of the new.

Of course, in quoting familiar Latin proverbs and phrases that are, as it were, Anglicised, the English pronunciation would naturally be adopted.

54. GEOGRAPHY.

The object of teaching a child geography is, firstly, to give him information about the countries and nations of the globe, but secondly (which is the more important object of the two) to implant in him a habit of seeking, and a faculty in acquiring, further information on these points for himself.

Geography may be divided into two kinds: (1) Descriptive and Physical; (2) Historical and Commercial.

The former deals with the phenomena of Nature and their causes, so far as they concern the physical features and climate of the different parts of the earth; the latter deals with the earth as peopled and modified by man, the demarcation of countries, cities, populations, and exchangeable products. So far as it deals with physical causes, geography trains the reason; and so far as it is descriptive, it creates interest in the variety, and admiration at the beauty of the world. Again, historical geography supplies information without which it is difficult to understand history; and commercial geography shows us how the different countries of the earth are connected together by the natural exchange of their several products.

It is evident that, until a boy is fairly advanced in history, historical geography cannot be taught except in outline; or, if taught in detail, cannot be easily recollected for want of the necessary associations with historical facts; and in the same way the details of commercial geography, for a boy unacquainted with the details of the commercial relations of different countries, will be dull and difficult to remember.

The conclusion from all this is, that it is not wise to overload the young memory with lists of statements about populations, commercial products, minute details of boundaries, lengths of rivers, heights of mountains, and the like, until the mind, by familiarity with history and the facts of commerce, is made duly receptive of such teaching. The teacher of geography should avoid, as far as possible, teaching any fact that is not (somewhat obviously) worth remembering; otherwise, it may be taught, but will not be permanently remembered. And as historical and commercial geography do not appeal to the reason, but to the memory, the facts which they teach are of no use as an exercise of the rational faculty; and, unless they can be remembered, it is better that they should not be taught at all.

The following detailed rules spring from the above general considerations.

1. Begin early by stimulating the child's imagination with pictures of Tropical and Arctic regions, as different as possible from our own country, so that the child may realize something of the greatness and grandeur of the world, and may be curious to know as much as possible of its wonders and varieties.

2. Teach him how to make a map of his street and the immediate neighborhood (or, if he is very young, begin by showing him how to make a plan of a room or a garden). After he has made several attempts on slips of paper of different sizes, show him an enlarged ordnance map of the same neighborhood, and make him understand how the same place may be represented by maps on a different "scale."

3. Pass at once to a map of England, on which mark the town and county in which the pupil lives. Then show him England in a map of

Europe. The object of this is to prepare him to realize in some degree the relative size of the objects to which geography will introduce him.

4. Then tell him that Europe itself is but one among several continents that cover the surface of the earth, which is not flat, but a globe. And here produce a small globe, which the boy may take out of its frame and handle; and help him to recognize England upon it.

5. By means of a compass, show how to determine the North and South; and point out that the sun is always South about twelve o'clock, Southeast about nine A. M., Southwest about three P. M., etc. Encourage the child to make for himself a rough kind of sun-clock, by means of a vertical stick casting a shadow.

6. When the child has thus arrived at the conclusion that the sun moves, point out to him (using the illustration of two railway trains) that the phenomenon he sees might be caused by the earth's moving.

Then, either with the portable globe and a candle—or (far better) with the aid of the interesting model called a Tellurium,¹ if one can be procured—which exhibits the earth revolving on its axis and in its orbit, round a light representing the sun—show him the causes of the phenomenon of day and night, summer and winter, and how the earth is but as one of the planets which he may see by night moving in the heavens.

7. Hence show that it is day in New Zealand when it is night with us, and that at noon in New Zealand the sun is in the North, not in the South.

8. Now returning to earth, draw attention to the natural features, mountains, rivers, lakes, and seas.

Show the pupils how miniature rivers are to be seen in the walks of gardens and of parks, or of hedge-sides, where they may see on a small scale winding streams, cataracts, lakes, and deltas. Then show them one of the best kind of raised maps; or, better still, model a mountain region for them yourself in clay,² and show how the passage of the water may be determined by the shape of the land. Hence, make them clearly understand the nature of a watershed.

9. Draw for your pupils, and teach them to draw, the course of a river from the source to the mouth, fed by tributaries, showing them that a river's course always chooses the lowest ground, so that it cannot be straight, like that of a canal; and warn them that a river must never be represented (as some boys represent it) flowing up hill.

10. Passing now to the map of Europe, call attention to the principal mountain ranges, rivers, etc., and at the same time indicate something of their historical importance in determining the boundaries of nations. Then rapidly teach the names of the different countries.

Show, in the case of England, Switzerland, the Netherlands, Germany, and Russia, how the existence of a large extent of sea-coast, or

¹ To be seen at Messrs. Laurie & Co., Publishers, Paternoster Row, London.

² This suggestion is borrowed from Mr. Fitch's *Lectures on Teaching*,

its absence, how plains or mountains influence the history and character of a people.

11. Next take the principal rivers, and, making imaginary journeys down them, mark the principal cities on their banks, associating each name with some intelligible and interesting fact of history or commerce. Also point out the commercial importance of navigable rivers.

12. Now, taking ship, make a number of imaginary voyages from port to port, naming the seas traversed, the islands and some of the points passed by, and the straits passed through.

13. Next arrange the countries of Europe, first, in order of magnitude, and second, in order of population, pointing out how the order differs in the two cases.

It is quite unnecessary that the pupils should commit to memory the numbers of the populations of all the countries in Europe; but they will find much less difficulty in remembering the *order* in which the different countries stand; and then if they can remember the exact population of two or three, they will have a fair notion of the rest.

14. After this, the teacher may be guided by circumstances as to the direction his lessons shall pursue. But, for an English boy, the British Colonies may naturally be presented as the next subject for study.

15. In order to show the pupils how to utilize and augment their knowledge of Geography, the teacher should now take a brief sketch of the wars of Napoleon, and show them how to follow the outline of the history rapidly in their maps, omitting details; or he might do the same thing more simply with a brief life of Hannibal.

16. It will be seen that in all these lessons sketched above, not much room is left for the "text-book."

Geography is really a very difficult subject to teach, especially for Oxford and Cambridge men, not trained to teach, and unaccustomed to the use of the blackboard; and because of its difficulty, many teachers prefer to trust entirely to the book, "setting lessons" out of it, which are to be "repeated" to the teacher.

Thus taught, Geography is of very little value. The text-book, in order to be complete, generally arranges all the facts and objects of one kind together, *e.g.* the capes, cities, lakes, rivers, etc. Hence the order of the text-book is not the order of the traveler. But the child who is learning geography ought to learn it, as far as possible, in the same order and with the same interest as though he were traveling across the country.

Moreover, in the complete lists of the text-books many unimportant facts are mixed with some that are important, and if the child learns all these promiscuously, he learns too much, and a great deal more than he can associate with intelligible and interesting ideas. Hence whereas he might have remembered a few things, if a few had been well selected, he now forgets everything, because the teacher has eliminated nothing.

Nor is this loss of information the only evil. He has also failed to form the valuable habit of connecting the names of places with characteristic events and facts, and has lost the active curiosity and interest which would have stimulated him, all through life, to ask, whenever he heard or read about some striking incident, "Where is that *place*? How did the *place* influence the *event*?"

17. Map-drawing may be made a useful exercise if it accompanies a study of the history of the country, and if the pupil is limited to a few of the more important towns, and *obliged to state, in writing, his reasons for selecting them*. Without some such precaution, boys will put in names wherever they will produce the prettiest pictorial effect, without the slightest regard to their historical or commercial importance; and it is needless to say that maps so constructed are positively mischievous.

More useful than elaborate map-drawing is the art of drawing rapid sketch-maps from memory, the pupil inserting only such towns as are prescribed by the teacher.

18. The last, but most important conclusion to be deduced from the foregoing remarks is that no one should teach geography who is not perfectly familiar with it himself.

The speaker should never need to take his eyes off the class or off his pupil *to look at the book*, and should be able rapidly and unhesitatingly to draw a map upon the blackboard without reference to an Atlas.

To make one's pupils see anything—and that is a principal object of geographical instruction—it is necessary that the teacher should (either with his eyes or with his imagination) have previously seen it himself; and the ideal Instructor in geography is one who, with all the qualifications of a teacher combines the experience of a traveler, who has actually seen what he describes; but next to this comes he who has, by reading and study, so completely mastered the outlines and coloring of the region he is describing, that he can speak of them as if he had seen them.

55. HISTORY.

"My own experience as a child," writes Preceptor, of early teaching in History, was derived from the mere reading of text-books, the result being that, after I had read two of them from beginning to end, I retained nothing except one or two mental pictures of little Arthur being blinded, Essex receiving a box on the ear, Rufus shot with a chance arrow, the original Briton colored and tattooed; and as my one interesting historical problem—a perplexity with regard to the important part played in history by what was called in my books a 'cabinet,' but at home a 'chiffonier.'"

Preceptor proceeds to pour contempt on the early teaching of History, declaring that it "goes in at one ear and out at the other." A great number of good teachers will endorse his opinion; but the legiti-

mate inference appears rather to be that History, as commonly taught to young children thirty years ago, was unsatisfactory, and not that more satisfactory results may not be obtained by more satisfactory methods.

Indeed, Preceptor himself suggests a method which must be undoubtedly more interesting, and the results of which are likely to be more permanent, than those of the old text-book teaching. "Begin," he says, "if you are to begin early at all, with the soldier, the policeman, the tax-gatherer, and—if you live in London—with the Palace of Justice, Westminster Hall, and the Houses of Parliament. The use of the soldier and the policeman will be one of the necessities of the body politic most easily comprehended by children, and the need of paying them supplies a natural introduction to the consideration of taxes.

"Then, since soldiers and policemen must be paid, roads repaired, lighted, and swept, the questions will arise, Who is to keep the money which the tax-gatherer collects from us? Who is to settle how much money shall be collected? Who is to tell the soldiers what enemy is to be attacked, and when? Who is to make rules for the policemen, that they may know when to take people up? And who is to decide what is to be done with the people thus taken up? Shall it be one ruler, or fifty rulers, or shall all the rich people rule, or shall all the people, without exception, meet together and rule?

"Here, by way of inculcating the need of some kind of rule, I remember drawing for some young people (in very rude and rough sketches) a picture first, of 'no ruler at all,' depicting a rabble in wild confusion fighting among themselves; second, a picture of 'one ruler,' Solomon seated on a throne deciding the case of the disputed child; third, a picture of fifty men in armor, stout and comfortable, surveying the execution of a lean poor man on the chopping-block before them. After these pictures followed others, of the tax-gatherer calling for the dog-tax (a mistake of mine, by the way) with the dog looking out of the window; of a ship putting into the docks, and the custom-house officers collecting their dues; of a law court with a judge and jury trying the accused; of a disciplined army contrasted with an undisciplined mob of armed men; of a representative assembly of some 400 or 600 making laws, addressed by an orator, with one hand in his pocket and the other holding his hat; of a vast popular assembly, such as in Athens, met for the same purpose, and being harangued by a speaker of Demosthenic action—and so on. What may have been the residuum of all this in the minds of my pupils I do not well know, for I had not leisure to continue the study of History with them when they grew a little older; but I remember that the lessons appeared to be interesting, and my impression is that they disposed the young people to approach the study of History as something very different from a bundle of dates or statistics, and also (which is not unimportant) as something different from a series of picturesque biographies."

Certainly it would be an interesting experiment to try the effect of a course of Historical lessons of this kind on young children. There seems no reason why boys of ten years old should not understand them and retain at least parts of them. Even a boy of eight or nine can understand the use of a soldier, a policeman, a law court, and a legislative assembly, and can be taught to divide the functions of government into law-making, judging, and law-executing, or, in other words, the legislative, the judicial, and the executive. He can even understand, either then or not much later, how, in some nations, these functions have all been discharged by one, in others by two, in others by three, bodies; and it will not be difficult to make him understand the advantages of assigning them to three; so that the same men may not both make laws and execute them, or make laws and judge those who are accused of breaking them. In this way, when he is introduced to the history of a new nation, he may be trained from the first to ask, Who made the laws? Who judged? Who executed the laws? and to classify nations in the same way in which he would classify birds, beasts, and fishes. And thus he will be prepared to estimate the importance of historical events by their influence on the legislative, judicial, and executive functions of the state; and he will be better able to understand the motives of the kings and statesmen with whom the study of History is to bring him into contact.

Nor need we stop here, if we are to accept Preceptor's further suggestions, which have at least the merit of being vivid, though many will pronounce them unpractical. "Set before the pupil," he says, "a large picture illustrative of the feudal times, showing the exaction of fines for the right of holding markets, the tolls taken at the gates of every city, at the passage of every bridge, at the boundaries of every petty feudal lord; and make the child understand how restrictions of this kind—checking commerce, hampering industry and enterprise, diminishing comfort, and preventing that leisure which enables people to think of other things besides bread-winning—might thus indirectly hinder the diffusion of knowledge, taste, and art, and enforce a people to remain in brutish ignorance. Or by reference to the paper-tax or the window-tax (the latter of which might be simply and forcibly illustrated) in our century, show how a nation, by an injudicious burden, may be mentally or physically enfeebled.

"Then point out how important it is that laws should be wise and just, and how unwise laws (as well as unjust laws) have, for the most part, been made for the poor by the rich and powerful, who did not belong to the poor for whom the laws were made, and therefore did not understand what the poor needed. Hence let the child understand how important it is that the poor should have a voice in the framing of those laws which they themselves are intended to obey.

"When this course is completed—which may be described as Historical Statics—I should proceed to teach them something of Historical Dynamics. Nor should I begin with the details of English His-

tory; for, indeed, early English History is much more difficult for children to understand than the history of Xerxes, Alexander, Attila, or Charlemagne. As, therefore, in Geography, after teaching the pupil about the elements of land and water, you passed to the map of Europe, so in History I should pursue the same course. To do justice to it, especially with a large class, one should have very large pictures (or dissolving views would be still better) each illustrated with a few striking sentences, not a word of which would ever require to be retracted, so as to produce on the mind of the child, through ear and eye together, a quite indelible impression.

"Failing dissolving views, we should have a series of brightly-colored maps exhibiting the changes that have passed over Europe and Asia Minor since the time of Xerxes to the present. There should also be pictures, not only of the decisive battles, but also of various incidents or objects that may be best suited to let the boy into the secret of the character of the nation or period that he is studying: Greek sculptures; Roman camps and armies; German forests; the death of Alexander; Cæsar crossing the Rubicon; the martyrdom of the Christians under Nero; the Nicene Council; the sacking of Rome by Alaric; a squadron of Huns with Attila; Mohammed purifying Mecca; the Saracens invading Spain; Charlemagne crowned by the Pope; William the Conqueror at Hastings; Henry IV at Canossa; Michael Schwartz inventing gunpowder; Columbus encouraging his crew; Luther burning the Pope's bull; the Armada; Plassy; the execution of Louis XVI; Waterloo.

"If in this way the principal epochs in European history could be once vividly impressed on the pupil's mind in their chronological order, he would certainly find no difficulty at all in retaining their relative positions in his mind, and probably find very little difficulty in committing to memory the exact dates of the most important events. This definite outline, besides being of subsequent value when the pupil comes to the study of the history of nations, is also of immediate use in giving precision and order to the study which ought now to begin, I mean Historical Biography.

"Biography, no doubt, is not history; but the life of a man is so much more attractive to children than the life of a nation that the indirect historical teaching of the former is often far more effective than the direct teaching of the latter. The same remark applies to novels. They may occasionally take liberties with chronology, and distort or adorn a fact; but in accustoming children to fill up historical outline with color, and in dissipating the notion that history is 'a dry study,' they are of such great value that a systematic course of novel reading may well be made an adjunct to the study of historical text-books, at all events for the young."¹

¹ See the very copious *Descriptive Catalogue of Historical Novels and Tales*, compiled by H. Courthope Bowen, M.A. (London, Stanford, 1882); also *Bulletins of Boston Public Library, Historical Fiction, and English Prose Fiction*, 1875-77.

In favor of Preceptor's novel suggestion that the outlines of European history should precede the study of English history, thus much may at least be said, that it is in accordance with the ordinary method of studying Geography, where Europe (in outline) generally comes first, and England second. And certainly the succession of picturesque and striking scenes suggested by Preceptor might do for history what the pictures of tropic and arctic regions (see § 54) were intended to do for Geography. The difference, however, is, that while any boy can understand a mountain or a glacier, it is not so easy for the young to realize the importance of the death of Alexander, or Cæsar crossing the Rubicon, or Luther burning the Pope's bull; and it is just possible that, in very young and dull children, Preceptor's pictures, though they might give pleasure, might cause some bewilderment as well. Yet, on the whole, in the hands of a good teacher, who could temper enthusiasm for his subject with sympathy for his pupils, it seems not improbable that such a preliminary course might be of use.

When the pupil (with or without the previous training suggested above) is introduced to the more detailed study of the history of his native country, a text-book will, for the first time, be placed in his hands. Here must be repeated what was said above as to the use of text-books in Geography, that the main use of the book should be to enable the pupil to revise, amplify, and master what the teacher has said, and not to dispense with the teacher's saying anything. A text-book cannot very conveniently (without the aid of different sizes of type, which are perhaps somewhat confusing to children) touch lightly enough on unimportant incidents, or give to narrative so picturesque a shape as a teacher can give in oral instruction. On the other hand, if a teacher relies entirely on oral teaching, he will find that, unless his pupils are above the average in retentiveness, only a small residuum of his lessons will remain in their memory.

The best plan seems to be to begin with a short sketch or Primer, which will contain none but the more important features of the period under study; then to supplement this by reading biographies, and by giving extracts from larger histories bearing on the more important epochs; and lastly, to revise the history of the period in a larger text-book.

In the learning of dates, *Memoria Technica* should be rejected, for the reasons given above (§ 50), but great care should be taken by sight, sound, and association, to fix the more important dates in the memory. None but very important dates should be at first required; but these should be thoroughly mastered. The reasons for their importance should be explained; and hints may be given to help the learner to remember the sequence (§ 51); but when the repetition is once begun, there must be no appeal to reasons; they are to be learned and repeated by ear, like the Multiplication Table. Then the less important may be grouped round these as centers. But the minor

dates must not be so numerous nor so often repeated as to interfere with the central ones, which must be repeatedly revised. The dates of the accessions of sovereigns are of importance where the personal character of the sovereign has had so much influence as to make a great change in the history of the nation; but as they have not always this importance, it is a pity to make these first dates committed to memory by a child. The dates of the signing of Magna Charta, the summoning of Montfort's Parliament, the Black Death, the recognition of English in the Law Courts, the death of Chaucer, the publication of the first printed book in England, the defeat of the Armada, and the loss of America, are very much more important than the dates of the accession of Henry I or Stephen.

Not much can be done to show the beginner how the English language and literature have changed and grown with the English nation. But whatever is done should carefully avoid the danger of "cramming." The text-books which relate that "in this reign Sir Thomas More wrote his celebrated *Utopia*," and there make an end of it, are hardly to be blamed if regarded as mere outlines and skeletons of history, suggesting to teachers what they should teach, and to pupils what they must revise of the instruction received from their teacher; but they are manifestly in themselves inadequate, and the information given in the sentence last quoted is, by itself, clearly of the nature of "cram." If, therefore, the teacher mentions any author at all, he ought to give such a sketch of him and his surroundings, illustrated, perhaps, by one or two characteristic anecdotes, as will enable his pupils in some sort to make a mental picture of the man. Then he may read a short extract from his works which shall have some kind of unity and interest.

For example, after telling his pupils that the History of Utopia means the "History of Nowhere," he may illustrate the "no-where-ness" of the book by reading the passage which describes how the Utopians esteemed gold as less valuable than iron, making fetters of it for prisoners and playthings for children. Similarly, in dealing with Chaucer, instead of describing all the characters of the *Canterbury Tales* at the same length, and all very briefly, the teacher should give the shortest possible summary of the poem as a whole, and then read the description of the Knight or of the Clerk in full.

Some notion, also, of the changes of the English language may be given by writing down for one's pupils a few sentences in the New Testament from translations of different periods, thus:

1. A.D. 1000 and fellen gyrdel waes ymbe his lendenu.

A.D. 1150 and fellen gyrdel waes embe his lendene.

A.D. 1380 and a girdil of skin (*i.e.* fell) about his loins.

2. A.D. 1000 and he bodede and cwaeth (compare the later *quoth*), Strengre cymth aefter me.

A.D. 1150 and he bodede and cwaeth, Strengre kymth aefter me.

A.D. 1380 and *prechid* (*i.e.* boded) *seyinge*, A strengere than I schal come aftir me.

It will not be necessary to call the young pupil's attention to the differences of inflections. But the mere reading aloud of these sentences will suffice to make him realize how little the English language changed from 1606 A.D. to 1150 A.D. (during which period the English-speaking and French-speaking classes had comparatively little intercourse with each other) as compared with the change between 1150 A.D. and 1380 A.D., when the two classes had learned to co-operate against the crown, and to recognize a community of interests. Thus he will be prepared for hearing that in 1362 A.D. French had become so unintelligible that it was supplanted by order of an Act of Parliament, which enacted that all pleadings in the law-courts should be conducted in "English, not French," inasmuch as French had become "much unknown in the realm"; and thus he will more easily realize the importance and remember the date of one of the most important events in the history of his native country.

For those who live in London, or other places of historical interest, it is scarcely necessary to say how valuable a stimulus for the study of history may be derived from a visit to Westminster Abbey or the Tower of London, especially after a little preliminary reading and study has prepared the pupil for what he is to see.

56. GEOMETRY.

Geometry is so much more easy and interesting for the young than Algebra, that it may be properly included in the present treatise, although Algebra will be excluded.

The principal reason why so many young pupils fail in Geometry is that they are left to rely upon a book, instead of following and retaining the oral instruction of their teacher.

"I remember," writes Preceptor, "that after I had taken a young pupil successfully through the first six or seven Propositions of Euclid without the aid of a book, one day when I found myself obliged to go out, and unable to give the usual lesson, I ventured to place the book in the boy's hands, telling him to study the seventh or eighth Proposition by himself. To my horror, as I passed the door soon afterwards, I heard him *singing* the Proposition. I immediately anticipated the worst. My anticipations were fulfilled when I returned and found that he had learned the Proposition by heart, and could readily repeat it, without being able to understand a word of it. My neglect on this occasion caused a week's retrogression, and I felt that it would have been much better if the half-hour had been spent in play."

Very similar is the Author's experience. Boys have so strong a memory and so great an aversion to think—where memory can serve as a substitute for thought—that it is most important, in teaching Geometry, not to leave the pupil to himself till he has formed the

56. GEOMETRY.

Geometry is so much more easy and interesting for the young than Algebra, that it may be properly included in the present treatise, although Algebra will be excluded.

The principal reason why so many young pupils fail in Geometry is that they are left to rely upon a book, instead of following and retaining the oral instruction of their teacher.

"I remember," writes Preceptor, "that after I had taken a young pupil successfully through the first six or seven Propositions of Euclid without the aid of a book, one day when I found myself obliged to go out, and unable to give the usual lesson, I ventured to place the book in the boy's hands, telling him to study the seventh or eighth Proposition by himself. To my horror, as I passed the door soon afterwards, I heard him *singing* the Proposition. I immediately anticipated the worst. My anticipations were fulfilled when I returned and found that he had learned the Proposition by heart, and could readily repeat it, without being able to understand a word of it. My neglect on this occasion caused a week's retrogression, and I felt that it would have been much better if the half-hour had been spent in play."

Very similar is the Author's experience. Boys have so strong a memory and so great an aversion to think—where memory can serve as a substitute for thought—that it is most important, in teaching Geometry, not to leave the pupil to himself till he has formed the habit of reasoning, and has learned enough to make him understand that it *pays*, in Euclid, not to try to remember, but to reason.

Many excellent teachers object to Euclid as being cumbrous, circuitous, and artificial. But until some other text-book is uniformly or generally adopted, it seems likely that he will maintain his present position. Leaving, therefore, to specialists the task of suggesting better methods or text-books, the Author will merely mention two or three expedients which he has found useful in teaching Euclid, pure and simple, to young children.

1. *The Definitions and Axioms.*—To begin by learning all the definitions and axioms is both tedious and bewildering.

Begin by doing or proving something definite; and then, in the course of your theorems or problems, introduce your definitions, axioms, and postulates, *as you need them*. Let the pupil collect them as they arise, and write them down for himself in a book.

They must undoubtedly be finally learned by heart; but before learning them, let the pupil understand their utility; and, so to speak, instead of regarding them as Euclid's axioms, let him be led to feel that they are his own axioms, which he has himself seen to be self-evident, and of which he himself demands the concession.

Thus, instead of beginning with Euclid's definition of a point, as "that which hath no parts and no magnitude" and a line as "length without breadth," we may for some time appeal to common sense.

and take for granted that, in drawing figures the lines are to be as thin and even as possible, and the points no larger than is necessary to make them clearly visible.

But after the boy *has been learning Geometry some time*, you may draw with a thick piece of chalk upon a blackboard a straight line AC , of perceptible and uneven breadth, and point out (proving it by measurement, if you like) that in the triangle ABC , of which the sides AB , AC are *called* equal, it is not exactly true to say that $AB = AC$; for although AB is equal to *one side* of the thick line AC , it is not equal to the other side. Similarly, if AB , AC meet in a *large* point A , which "hath parts and magnitude," it will depend upon *the part of the point* from which you begin to measure, whether AB is really equal to AC .

Hence the pupil may be able to perceive that Euclid's Propositions could not always be exactly true of points and lines, unless points were "without magnitude" and lines "without breadth." But until he is able to perceive this, it will be best not to trouble him with Euclid's definitions of a point and line, but to leave him to "common sense."

2. *The use of Rules and Compass.*—Before proceeding to the Propositions, he should be taught how to draw triangles and circles neatly, so as to familiarize him with the use of the ruler and compasses.

When he has drawn several circles he should be told to measure the distance from the center to two or three points in the circumference, and to ascertain whether they differ in length; and an oval, or ellipse, having been drawn for him by the teacher, the pupil should be shown how this equality of the radii distinguishes the circle from the ellipse. But I should not as yet trouble him with the definition of a circle.

3. *The First Proposition.*—We now tell the child that we allow him a compass and a ruler, but not a measuring-rule; and he is to try to describe, on a given straight line, a triangle with three equal sides.

After criticising his hap-hazard attempts, and pointing out that, even when the pupil is near the mark, he is proceeding by "guess-work," we offer to describe one in which the sides shall be exactly equal. It will be found that the First Proposition, thus introduced, will present no difficulty, and the child ought to be able speedily to work the Problem himself.

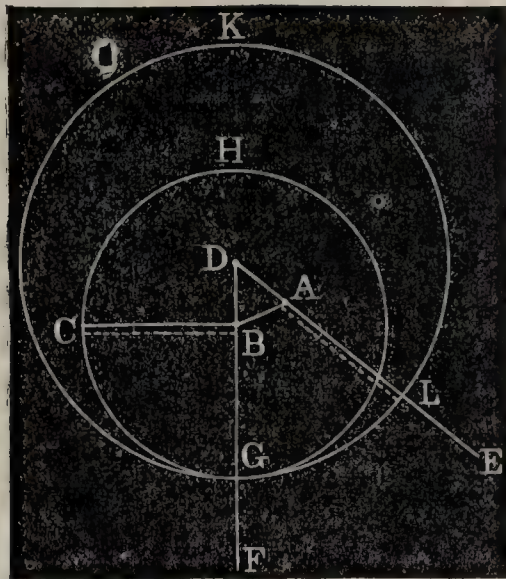
In the course of this Proposition, call attention to the fact that we have *assumed* that "things that are equal to the same thing are equal to one another." Tell the boy that an assumption of this kind is called an Axiom (which means "assumption") and bid him write it down in a manuscript book as the first of Euclid's Axioms.

4. *The Second Proposition.*—The Second Proposition presents more difficulty. For when the child learns that he is "from a given point to draw a straight line equal to a given straight line," he naturally replies that he can do it at once, by *measuring with his pencil* from the given point a distance equal to the given straight line.

We must therefore introduce this Proposition as a test of ingenuity, by saying that "of course any one can do this *with the use of a measur-*

ing-rule, but we are expected to show our ingenuity *by doing it without a measuring-rule*, and with the aid of a compass used merely for the purpose of describing a circle."

When the construction is completed, before proceeding to Euclid's proof, it will simplify matters to go backwards from the conclusion, and to say, "Now you see that BG is equal to BC , do you not?" Yes.



"Then if we can show that AL is equal to BG ,¹ the thing required will be done; for AL will have been drawn from A , equal to CB , will it not?" Yes. "Well, then, we shall show that AL and BG are equal in the following way: First, we shall show that DG and DL , the radii of the large circle, are equal, and then that DB and DA , sides of the equilateral triangle, are also equal; and subtracting the small equal lines from the large equal lines, we shall show that the remainder BG is equal to the remainder AL ."

Probably the boy will find no difficulty at all in this reasoning; but it should now be pointed out to him that here we are *assuming* that "if equals be taken from equals, the remainders are equal"; and this statement having been illustrated from the subtraction of numbers, lines, and spaces, must be written down as another of Euclid's Assumptions, or Axioms.

This Proposition will need to be repeated perhaps two or three times by the teacher before the pupil can easily work it himself. But he may be helped by being accustomed to a summary of it in dialogue, thus: After he has completed the construction, he may be asked, "What are you going to prove?" That AL is equal to CB . "How are you going to prove it?" By proving that AL is equal to BG , and that BG is equal to BC .

When the teacher is repeating this proposition the second time, he must occasionally stop in the midst of a sentence and let the pupil complete it, to see whether he can take up the reasoning; nor must

¹ AL and BG may be drawn in red ink, or otherwise distinguished from the rest of the figure, so as to call special attention to them.

the pupil be asked to work the problem himself till the teacher has good reason to think that the task can be successfully accomplished.

5. *Tests of Understanding.*—When the first three Problems are mastered, they should be drawn upside down; or numbers should be substituted for letters, so that the pupil may be habituated to recognize the truth of the process in all circumstances, and to depend entirely on the reason, and in no respect on memory.

It should be needless to add that the pupil must not have the figure before him to begin with, nor should he be allowed to draw the figures in silence, and then state what he has been doing. Before he is allowed to draw a line, or join two points, or describe a circle, he must state precisely what he is intending to do.

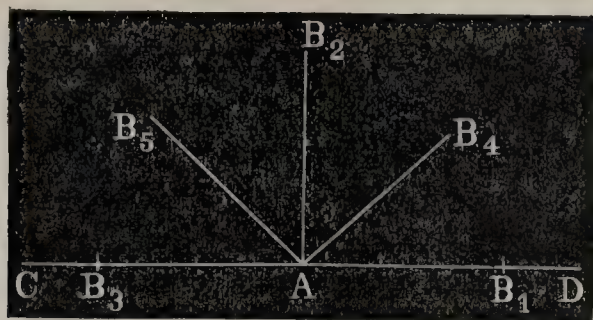
Very often it is a good plan that the pupil should dictate the construction while the teacher executes it. The advantage of this is, that, if the pupil dictates inaccurately, the teacher can correct him silently by carrying into effect the inaccurate instructions, and showing their absurdity. For example, in the First Proposition, the pupil perhaps says, "Let AB be the given line" (omitting the word straight), upon which the teacher will draw a curved line. Or again, instead of saying, "from the center A , at the distance AB , describe the circle BCD ," the pupil may say, "from the center A describe the circle BCD "; upon which the teacher will proceed from center A to describe an absurdly large circle BCD , passing through a second B , with a radius of eight or nine inches, or (if on a blackboard) of one or two feet.

6. *Angles.*—Before proceeding to the Fourth Proposition, we must now introduce the pupil to angles. Great care is here needed to prevent him from falling into the error of confusing angles with triangles.

For this purpose, Euclid's definition is of little use. "A plane rectilineal angle is the inclination of two straight lines to one another, which meet together, but are not in the same straight line." For, replies the boy, "What is the meaning of 'the inclination of two straight lines to one another?' I thought I knew what an angle was like; but I am sure I do not understand what 'inclination' is." To such a boy, at the present stage, Euclid's definition conveys no meaning, and tends rather to confuse him.

The best means of introducing a boy to the notion of an angle is to lay a stick AB upon another CAD , and then gradually make AB revolve upon the pivot A , so that it passes from a position (AB_1) of coincidence with AD to a position (AB_3) where it is in a straight line with AD . Point out, as you move the stick away from AD , that the moving line is *sloped* or *inclined* more and more to the fixed line AD ; and that when the moving line is half way (AB_2) it is sloped equally with respect to AD and AC . Placing the moving line in different positions, *e.g.* AB_4 (half way between AD and AB_2) elicit from the pupil that AB_2 is *more inclined* to AD than AB_4 is, and that AB_5 is more inclined to AD than AB_2 is. Then show him that, if the line (AB_4) is half way between AD and AB_2 , AB_2 is *twice as much inclined*

to AD as AB_4 is. Then tell him that, when we wish to describe *how much one line is inclined* to another, we generally speak of the *inclination* of one line to another, and show him how "inclination" is meas-

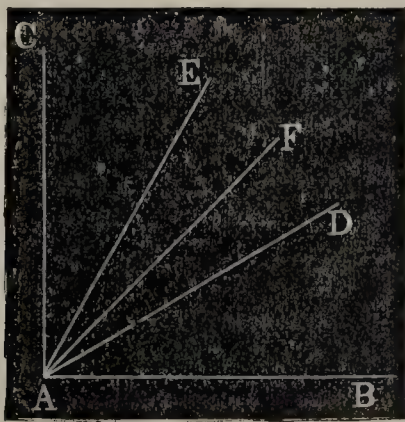


ured by degrees. Tell him that, in passing from AD to AC , the moving line passes through one hundred and eighty degrees (180°); in passing from AD to AB_2 , through 90° ; in passing from AD to AB_4 , through 45° .¹

In this way the pupil will be saved from connecting the notion of *inclination* with the notion of enclosed space; and there will be nothing in what he has heard that can make him confuse angles with triangles, while there will be much that will prepare him for Euclid's definition of an angle.

After this it is well to construct a dial-face of card-board with moving hands, the circumference being divided into 360° , and to teach the pupil to incline the hands at different inclinations, 60° , 120° , 90° , etc. We may now tell him that the amount of inclination is called *angle*, so that we speak of an angle of 90° , 120° , 60° ; and we may then give him Euclid's definition.

Even now the difficulty is not over; for beginners are often perplexed by the "reading" of angles, and unable to see that a single angle may be composed of two or more smaller angles. Taking, therefore, an angle of 90° (BAC), we may bid the pupil divide it as neatly



as he can into three equal parts, BAD , DAE , EAC ; and then to divide the same angle BAC into two equal parts, BAF , FAC ; and we may put the pupil through a series of questions: (1) Trace with a pointer the angles BAF , BAD , DAF , FAE , DAE , DAC , etc. (2) What are the two angles that make up the angle BAF ? (3) What are the two

¹ In practice it will be found that sticks, pen-holders, rulers, etc., are more intelligible illustrations than any diagram can be

that make up EAD ? (4) What are the three that make up EAB ? (5) What are the four that make up BAC ? (6) Subtract the angle DAF from BAF , and what is left? (7) DAF from DAE , and what is left? (8) How many degrees are there in BAF ? (9) How many in DAB ? (10) Then how many in their difference DAF ? (11) How many in EAD ? (12) How many in DAF ? (13) Then how many in their difference EAF ? (14) How many in CAF ? (15) How many in FAD ? (16) Then how many in their sum CAD ?

Not till the pupil is thus familiarized with the reading and reckoning of angles, will it be wise to proceed to the Fourth Proposition of Euclid.

7. *The Fourth Proposition.*—This proposition requires even more care than the Fifth.

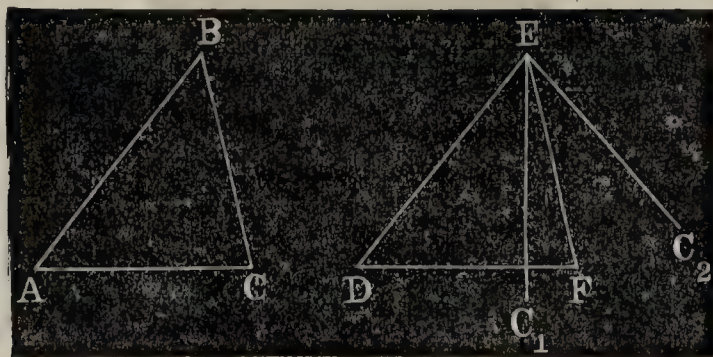
The teacher should begin by explaining the method of “applying.” “Put a straight line AB on DE , so that the point A shall fall on the



point D , and AB shall lie on DE . Then if AB is the larger of the two, where will B fall?" On DE produced. "And if AB is the shorter?" B will then fall between D and E . "And if AB happens to be just equal to DE ?" Then B will fall on E .

Now let the pupil take two triangles that are not equal to one another in any respect, or that have merely one side of the one equal to one side of the other, and let him “apply” one to the other. Thus he may realize that in these cases the two triangles will *not* coincide with each other nor be equal to one another.

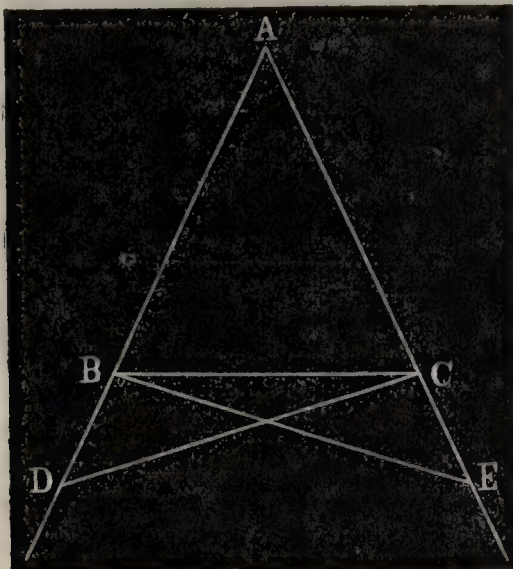
This having been mastered, the teacher should make the pupil cut out in paper two triangles ABC , DEF , having two sides and the included angle equal; or, better still, make triangles of frame-work,



such as may be fashioned from the frame of a broken slate.

This done, the process of applying should be performed, not all at once, but bit by bit, as Euclid prescribes.

A is first to be placed on D and AB made to lie along DE ; and (by the preceding demonstration of the method of "applying" one straight line to another) the pupil will realize at once that B must coincide with E , and AB with DE . Here the teacher must pause. "We have now made AB coincide with DE . Now if the angle ABC were smaller than DEF , BC would fall inside, thus (EC_1), and if the angle ABC were greater than DEF , BC would fall outside, thus (EC_2); but since



the angle ABC is exactly equal to the angle DEF , where must BC fall?" This reasoning, together with the actual application of the paper or frame-work triangles, will probably make it quite clear to the pupil that BC will fall neither inside nor outside of EF , but on EF . If this is understood, the rest presents little difficulty.

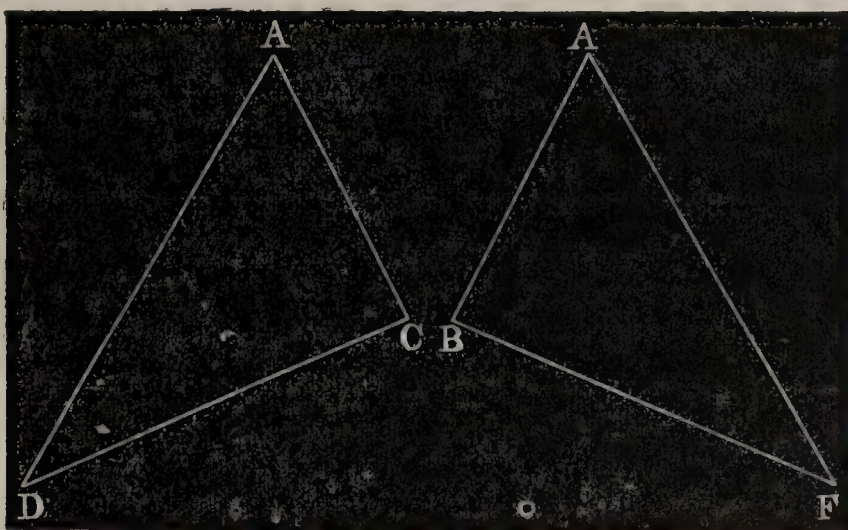


FIG. 1.

8. *The Fifth Proposition.*—The difficulties of the Fifth Proposition arise, 1st, from the overlapping of the triangles, about which the boy has to reason just as though they did not overlap; 2d, from the length of the chain of argument.

To meet these difficulties the teacher must resort to the first principle of teaching, viz., "Divide": 1st, he must exhibit the triangles not overlapping, but apart; 2d, he must break up the chain or argument into its several links and make the connection between them seem easy and natural.

First, therefore, let the teacher draw two triangles (as in fig. 1),

ACD , ABE , which have the two sides AD , AC equal to the two AE and AB , and the included angle DAC equal to the included angle EAB ; and in this position let the triangles be reasoned about by the

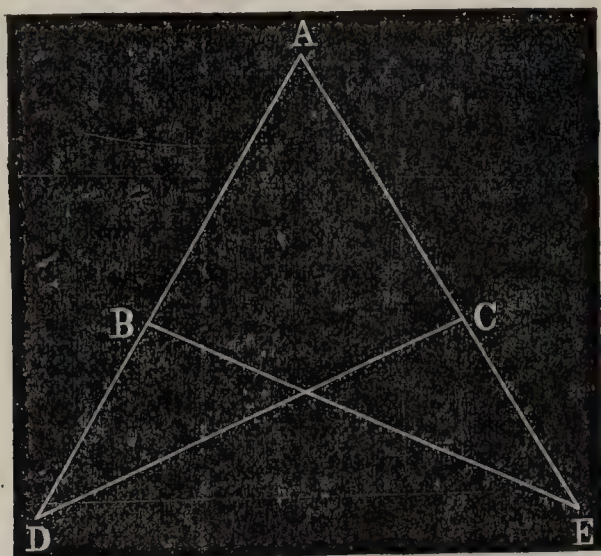


FIG. 2.

pupil, who must deduce about them the conclusions of the Fourth Proposition, viz., that the angles at the bases of these two triangles are equal, and their bases are equal.

Afterwards the boy must go through precisely the same method of proof, when the triangles are made to overlap (as in fig. 2). The only difference will be that, instead of saying that the angle BAE is *equal* to the angle CAD , we shall now have to say that the angle is *common* to the two triangles.

Next let him apply the conclusions of the Fourth Proposition to two triangles BCD , bce (as in fig. 3), which have the two sides BD , DC



FIG. 3.

equal to the two sides ce , Eb , and the included angle BDC equal to the included angle bEc .

Lastly, let him apply the same conclusions to the same triangles, only now (as in fig. 4) overlapping. The only difference in the argu-

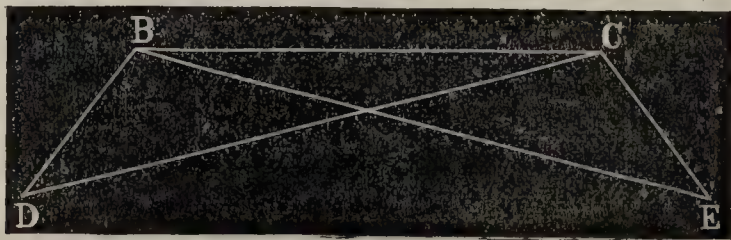


FIG. 4.

ment need be that, instead of saying (as in fig. 3) "therefore the base BC is equal to the base bc ," we must say, "and if the base BC were

not the same for the two triangles, we could have shown that the two bases were equal."

We now come to the Fifth Proposition itself. As soon as the construction is completed, and the pupil has stated the thing to be proved, viz., that the angle ABC is equal to the angle ACB , we must say, "Now the first of these angles is equal to angle ABE minus angle CBE ; and the second is equal to angle ACD minus angle BCD ." If the pupil does not readily grasp this, we must go back to the figure on p. 109, and then, showing him what angle is left when a part is subtracted from a whole, we must habituate him anew to take angles from angles, and to recognize the results.

This done, we resume, "We shall therefore first show that the large angle on the left, viz., ABE , is equal to the large angle on the right, viz., ACD ; we shall then show that the small angle on the left, viz., CBE , is equal to the small angle on the right, viz., BCD . Then, if we take away the small angle on the left from the large angle on the left, and do the same on the right, the two remainders must be equal (by the axiom which we used in the Second Proposition), *i.e.*, the angle ABC must be equal to ACB ."

In this way, the pupil will be taken, as it were, into the secret of the campaign before the war begins, and will not be bewildered by the tactics which might else seem to him unnecessarily lengthy and inexplicable, and impossible to remember.

Proceeding to the actual proof, the pupil may be easily brought to see that it will consist of two distinct parts: I. The first part will prove that the large angle ABE is equal to the large angle ACD . II. The second part will prove that the small angle CBE is equal to the small angle BCD . For the first part, we shall have to use the large triangles ABE and ACD ; for the second part, the small triangles CBE , BCD .

I. As for the first part, he will readily accept it, from the practice that he has had with figures (1) and (2).

At the conclusion of the first part, when it has been proved that the base CD is equal to the base BE , and the angle BDC equal to the angle BEC , the teacher may say to the pupil, "Now perhaps you may wonder what is the use of proving these two things. But you will soon see that we shall use both of them in the second part of the Proposition. For the side CD belongs to another triangle besides ADC . To what triangle? Again, the angle ADC belongs to another triangle besides the triangle ADC . To what triangle? And the same is true of the angle AEB and the side BE . To what triangle do they belong, besides belonging to ABE ?" Having elicited that these sides and angles also belong to the triangles CBE , BCD , we reply, "We shall now pass to these triangles, and see what we can prove about them."

II. The second part presents a little difficulty, because, in applying the Fourth Proposition to the triangles BDC , BEC , instead of being able to *infer* that "the bases or third sides are equal," the pupil is con-

fronted with the pre-existing *fact* that the bases are the *same*. But this difficulty has been met in figures (3) and (4).¹

9. In giving these ample details of the Author's experiences in teaching these early propositions, it is not meant that other teachers should reproduce these explanations verbatim. The object is rather to show how important it is that the teacher, in the earliest lessons of geometry, should "keep touch" with the pupil. Where the learner can readily accept the proof without these or similar explanations, the teacher may safely pass on without them.

But the teacher must be quick to perceive the least symptoms of bewilderment, and must never allow the pupil to lose coolness and confidence, or to guess and "plunge," like a bad swimmer, out of his depth. Children differ greatly in the habit and manner of assenting. Some, out of a desire to please, will say "Yes," in answer to the question, "Do you understand this?" when, in reality, they do not understand it, but *only remember* it. Therefore, when a child says he understands any statement in geometry, he should be immediately confronted with several exemplifications of that statement in *different shapes*—angles of different sizes, triangles upside down, *X* and *Y* instead of *A* and *B*, Arabic numbers instead of letters, and so on; and not till he has passed these tests must the teacher be satisfied that the pupil really understands.

Also, in repeating Euclid, the child must not only be compelled to draw his own figures (or to dictate to the teacher how to draw them), but also when he makes a statement he must be constantly called by the teacher's "Why?" to give a reason for it. "Therefore the base *AB* is equal to the base *CD*." Why? "By the Fourth Proposition." "Therefore the remainder *AB* is equal to the remainder *CD*." Why? "Because if equals be taken from equals, the remainders are equal." "And *AE* is equal to *AD*." Why? "By construction," or "Because we made it so." "Now *AB* is equal to *AC*." Why? "By hypothesis," or "Because we supposed it to be so from the beginning."

After the Fifth Proposition has been intelligently and thoroughly mastered, Euclid should present little difficulty till the pupil reaches the Sixth Book, which belongs to a stage of instruction beyond the scope of these pages.

But still, up to the Fifteenth Proposition, or further, the teacher will do well to rely mainly on oral instruction, and—particularly if his pupils have good memories—to *beware of the book*.

Deductions, of a very simple sort, should be in use from the start.

¹ A shorter method would be, after the figure has been constructed, to say, "Now we are going to use the Fourth Proposition. Enunciate it. What triangles do you see that *look* equal? (Ans., *ABE*, *ACD*.) "Then we shall try to prove that these two have two sides and the included angle of the one equal to two sides and the included angle of the other." This done, you say, "Now what other triangles *look* equal?" (Ans., *BCD*, *CBE*.) "Then we shall prove the same thing in these triangles." If the boy can readily pick out the two pairs of equal triangles for himself, it may be unnecessary to use the longer method of instruction.

VI. RELIGIOUS INSTRUCTION AND HOME INFLUENCE.

57. RELIGIOUS INSTRUCTION.

1. It is now generally admitted that, in all subjects of education, it is an injury for the young to be taught to repeat language to which they attach no meaning.

Teachers who believe this, and who believe further that Religious Instruction is the most important of all educational subjects, ought to be especially on their guard here lest the desire to train children in this subject early should result in their being trained prematurely, and consequently inefficiently.

2. But the presence of children at short religious acts, such as "saying grace," singing hymns, and other *short* expressions of devotion, is a very different thing from making them learn and repeat long and (to them) unintelligible formularies of religion.

Silence and attention during "grace" afford one of the earliest and most impressive indirect means of helping a child to realize that there is a Power in the Family, never approached but with reverence; unseen and unheard, yet addressed in words; One who is present not only on Sundays, but on all days, and who, though He is far above us, is nevertheless not so high but that we may ask Him to bless our daily bread.

3. The Lord's Prayer—much though we may desire it to be the first prayer because it is the best prayer—ought, in the Author's judgment, to be deferred till the child has been accustomed to the usual simple petition for "father, mother, brothers, and sisters." No words can well be more powerful than these in introducing the child to the conception of One who must be above all things in greatness and goodness, because he is even greater and better than the child's parents.

As to the importance of the circumstances of prayer, enough has been said above (see § 32).

4. Not till after a child has thus realized in some faint degree the human revelation of God, revealing Him as One who can bless and help, should he be introduced to that other revelation through Nature, which reveals Him as the Maker and Sustainer of all things. Suffer the child first to exult a little in the beauty, and to admire the glory and order, of the visible world, before leading his thoughts up from the things made, to Him who made them.

And when the attempt is made, it is best made by the father or mother, not by nurses or servants. "I remember," writes Preceptor, "that on one occasion, during a walk in the country, when I noticed that my son—a child of four or five years old—seemed more than usually impressed with the beauty of what he saw around him, I thought the time might now have come to lead him from things visible to the invisible Maker, and I asked him who, he thought, had made all

this beautiful world. He at once replied 'God;' but his emotions of joy were at once checked, and his countenance became blank and inexpressive, as if he were passing from a state of genuine feeling into mere unmeaning speech. It was obvious to me that he did not realize, in any sense whatever, the meaning of what he uttered; and I guessed at once (what I afterward ascertained upon inquiry) that he had been trained to say it by his nurse, and was merely answering by rote.

"I felt that this teaching, however well intended, had been premature. Wesley records it as one of the critical moments of his life, when his mother took him into a room by himself, and there for the first time spoke to him of the Being above, to whom alone worship is due. Not to all parents assuredly is it given so to impress their children as the young Wesley was then impressed by his mother; and very probably I might have failed as the nurse failed. But I felt that I had been deprived of even the chance of succeeding. No great harm had been done; but an opportunity of good—which I might possibly have utilized, and should have liked at least to have tried to utilize—had been irrevocably lost."

5. The name of God ought by no means to be introduced lightly, or on every occasion, to enforce duty. The consciousness of right and wrong in the first place, and where this is insufficient the will of the parents, ought to suffice for the most part without appeal to religion.

Above all things, teachers should avoid accustoming or encouraging children to talk much about religious matters. Such talk, even when accompanied with right action, cannot be wholesome, for it must always express more than the child really feels. Besides, in most cases, it will not be accompanied with right action: it will be a mere safety-valve for unnatural excitement, letting off steam which ought to have been utilized for something better than words. A child who *gushes* generally turns out badly; and it is this type of gushing creature which goes far to justify the proverb, "The greater the saint, the greater the sinner."

6. Yet it should always be tacitly assumed that God is the Author of all duties, the Maker of the ties that bind a household together, that he sees right and wrong, even though unwrought and unuttered, and existent only in the mind; and that He is pleased with what is right, and displeased with what is wrong.

The best time for impressing this upon the child is before his evening prayer. Most children are apt to be more open and disposed to reveal their thoughts at this time; and it therefore affords the best opportunity for the parent or trainers to review the events of the day.

"Now have we anything to think of before prayers? Is there anything done amiss to-day which you must try to do better to-morrow?" Many a child who would have resented a sudden scolding, especially before strangers, will be much more open to genuine conviction and contrition if his fault is thus for the first time pointed out; and a resolution thus made, and followed by the usual evening prayer, is more likely to be adhered to than if made at any other time.

7. By this habit of practically reviewing the day—not, however, to be mechanically or invariably adopted—an additional force and meaning will be given to prayer. Acknowledgment of fault and weakness naturally leads the mother to speak of God as the Forgiver and Helper, to whom prayer must be addressed for forgiveness of the past and strength for the future.

8. As regards church-going, it is obvious that what are called children's services must be less tedious and more intelligible for them than the ordinary services; and with discreet management—so conducted in the church, and with the results so moderated at home, as not to produce any unwholesome excitement—they are probably of advantage.

9. But on the other side much is to be said for the presence of children at the religious observances of their elders. In the Law of Moses it is assumed that the child is present at the celebration of the Passover before he is aware of its meaning; and part of the celebration consists of the child's inquiry and the father's reply, thus traditionally handing down the meaning of the institution from one generation to another.

In the same way the presence of a child with his parents at the services of the church (where they are not so long or so dull as to be absolutely intolerable, probably conveys more indirect benefit than is commonly supposed, giving him an early conception of religion as a social and not merely individual influence, and quickening his apprehension of the Being to whom not only his parents but the whole neighborhood unite in all solemnity to pay homage.

10. If a child is fond of reading, and chooses to read the Bible for himself, his instinct will probably guide him to those parts which are most intelligible, or from which he can at least extract a meaning, and there is no sufficient reason for preventing him from this desultory perusal. But it would be a very sad mistake for a teacher to cause children to read through the Bible consecutively as a religious task.

Not to speak of the genealogies, there are obviously many portions of the books of the Law and the Prophets which should be passed over in teaching children, and there are other portions in the historical books treated with a fullness of detail which does not fit them to be used as reading lessons for the young. Yet, on the other hand, the summaries of the Bible frequently employed by those who have to "get it up for examination," for the most part, omit everything that constitutes the life of the Biblical narrative, so that they cannot be accepted as substitutes for the original.

11. The best course seems to be that a child should receive, as an introduction to the reading of the Bible, one or two oral lessons about the early history of religion, illustrated perhaps by a visit (if in London) to the Egyptian and Assyrian rooms in the British Museum, showing how the great nations of antiquity, groping after the great God who

made heaven and earth, typified Him in various imperfect forms, representing His power and wisdom, and how they fell short of the conception of the Eternal Righteousness and the worship due to Him.

12. After this, they may be taught how God in the darkness sent down a ray of light to Abraham the Father of the Faithful, and to his children and descendants, guiding and chastening them, and revealing Himself to them not only as Powerful, but as being One, Eternal, Righteous, Just, Forgiving; and with this introduction the child may read the lives of the Patriarchs and of the deliverers of Israel, understanding (though, of course, very imperfectly as yet) that the great merit of all these heroes was their faith or trust in Right against Might.

13. Not till a later period must the story of Christ be introduced. In prayers and hymns the child will be already familiar with parts of it. But now these parts are to be combined for him into a brief whole; and he is to be introduced to the Incarnation as being the central event in the world's history, wherein God, who had previously revealed Himself through servants, at last revealed Himself through His Son as being our Father in Heaven.

14. Some people maintain that the conception of God as "our Father" is not in itself sufficient, being compatible with self-conceit, foolish hopes for oneself, contempt for others, and an insensibility to justice; and doubtless if a child is taught to realize God as "*my* Father," these objections are well founded. But they disappear if he recognizes the full force of "our," namely, that God is the Father of our enemies as well as our friends, of those whom we are disposed to dislike or neglect as being offensive or common-place, no less than of those whom we admire as exceptionally good and great; and that He cannot be supposed to fall below Plato's standard of justice, which consisted in "giving to *all* what is best for them."

15. It is thought by many in these days an old-fashioned and exploded doctrine to teach that there is an Evil Being in the world resisting the Good. Yet without believing in the existence of the weaker Evil it is scarcely possible to believe in the existence of the stronger Good.

Even to a child the question must suggest itself in his very earliest years, How can the world—being, in part, evil—have been created by a perfectly good God?

Admit at once that the origin and existence of Evil are past all explanation, and constitute a logical difficulty. The reply is obvious, that any theory whatever of the existence or non-existence of a God involves a logical difficulty. It is therefore the right course to adopt that theory which, though logically inexplicable, does least violence to reason and best approves itself to the instinct of Faith.

Not for nothing therefore does the Bible put at the very fore-front of its teaching the doctrine that there is Evil contending against Good; and to suppress this doctrine, even for children, is, in the Author's judgment, to do great harm.

16. For other reasons, teachers should by no means blink the existence of Evil. The fighting instinct is strong in the young; and one powerful means of enlisting them on the side of the Good is to enlist them against the Evil.

There is a great deal in the Christian Revelation that is not, cannot be, and perhaps ought not to be, readily intelligible to children—for example, the full meaning of forgiveness, and still more the appreciation of Love as dominant in the Universe. It is almost as impossible for children to believe that an element of human nature, so close to them as Love is, and so familiar, should be the most potent Power in the immaterial world, as it is to believe that the same electric fluid which makes the hair crackle beneath the comb produces the roar of the reverberating thunder.

All the more necessary is it that the teacher should appeal to that strong and wholesome instinct which leads the young to fight for one side against another, pointing out to them that they, in a certain sense, are soldiers in the army of Light contending against the powers of Darkness.

17. It may seem a hard saying, but it is said with the Author's deepest conviction of its truth, that few boys can be induced to *love* Christ; and if they say they do, they probably say so mainly because they have been taught to say so.

Yet many boys can be induced to feel a *loyalty* to Christ as their Leader in the battle against Evil; and it is therefore in this character of a Champion that the teacher should strive to present Him. There is no stronger antidote against all the evils that spring up for the young from that thoughtless selfishness which is almost inseparable from youth and inexperience, than Christ thus presented by the teacher and apprehended by the pupil.

18. Whatever may be the differences of opinion among teachers as to the exact historical accuracy of certain parts of the various books that make up the Bible, most will probably agree that the Bible was made for man and not man for the Bible. In other words, it is better to be a sincere worshiper of God, while doubting the genuineness or authenticity of certain passages in the Scriptures, than to accept the Scriptures in their entirety, yet neither to love, nor trust, nor reverence their divine Giver.

19. To lead the young therefore to the worship of God, through the study of the Scriptures, should be the object of the teacher; not to produce a belief in the letter of the Scriptures by habituating children to worship the Book itself.

This being the case, even those who may believe that there are no interpolations and no inaccuracies in our versions of the Old and New Testament must be anxious that the young shall so study the Scriptures as to be led thereby to worship God, *i. e.*, to love Him, trust Him, and reverence him with all the strength of human faculty.

For this purpose the teacher will do well to take as the basis of his teaching that famous vision of the prophet Elijah which taught that the Revelation of the Supreme is not contained in the Fire, nor in the Whirlwind, but in the still small Voice.

The minds of children, naturally alive to the marvelous, are so impressed by the stupendous miracles recorded in the Old Testament that they are often disposed to connect the Revelation of God in those pages solely with these wonders; and then, in after days, when they hear the historical accuracy of some of these events doubted by some whose judgment they respect, they lose at once their belief not only in the historical accuracy of these particular incidents, but also in the whole Revelation which they were supposed to convey.

This danger may be met by laying more stress upon the spiritual revelation conveyed to Israel in the Law and the Prophets; and by showing how, by national calamities and individual troubles, the different spokesmen of God who wrote the books of the Bible gradually built up a structure of religious thought and expression such as cannot be found even in the literature of Greece, or Rome, or India, or any other civilized or uncivilized race.

Teachers will of course remember, in dealing with this subject, that, if they are not teaching their own children, they are bound to consider the parents, who may not unnaturally object to negative teaching on religious subjects. But to parents who themselves undertake the religious teaching of their children, or to teachers who have full authority to give such instruction on this subject as may seem best to them, the words of Preceptor may not be without use.

“When I came,” he says, “to the account of the battle of Beth-horon and of the sun’s standing still, I endeavored, first of all, before telling the story of the battle, to make my children realize the place, time, circumstances, and historical importance of the struggle, that they might have a vivid picture of it before their eyes, and might also know that this battle was one of the great battles of the world; which, if it had turned out differently, might have changed the whole course of history and of religion. Then I began the story of the march and the fighting, and at a certain point I said: ‘Here the story goes on to say that Joshua, the general, stretched out his hand to the sun and to the moon, and bade them stand still, so that the people of Israel might continue the pursuit of their enemies; and that the sun and moon stood still, so that there was no day so long as this before or after, in the history of the world. But it is generally agreed by the wisest people that this part of the story must have arisen from some misunderstanding, because we know from astronomy that this could not have happened without causing a great crash and destruction of all the Universe; and different people give different explanations. But one thing is certain—and that is enough for you and me—that on this day the Lord fought for Israel; and that if this battle had been won by the Canaan-

ites, and not by Israel, then the Chosen People would never have entered into the Promised Land; and the children of Israel might have remained wanderers for ever, and there would perhaps have been no King David, and no Psalms, and no Prophets; and being left without the light of true religion, all the world might still be lying in darkness, and so at this moment you and I might not be worshipers of Christ, and perhaps we should be heathens, bowing down before blocks of wood and stone.' ”

It is the Author's experience that, without negative teaching, and without entering into polemics, it is possible to lay much more stress than is usually laid upon the essence of Revelation, as distinct from the medium through which the Revelation is conveyed.

20. If, as will probably be admitted by all, it is impossible to be a sincere worshiper of God and yet remain *deliberately* immoral, it would seem also evident that an apparent sanction of immorality in the pages of the Bible is likely to defeat the purpose for which the Bible is read. Let the pupil therefore be very early confronted with that notable saying of our Lord, that certain things were allowed by Moses in the Law “for the hardness of men's hearts;” and let him be told that this saying applies to the whole of the Old Testament; so that he is not to suppose that, because Jael, or Jephtha, or Samson, or David, did certain things which are not expressly blamed by the historian, therefore those things are necessarily good and right for us in our days, or were even right in those days. And, if we believe that the last and greatest of the Prophets, John the Baptist, is inferior to “the least in the Kingdom of God” in the knowledge of the divine nature, it must seem an obvious inference that even the conceptions and judgments expressed by the writers themselves of the books of the Old Testament must not be expected to stand on the level of the morality of the New Testament. As to the future life, one caution at least may be of use. Servants (unless in very exceptional cases) ought not to be allowed to speak to children about this subject. A child's nature may be warped, or an irremediable taint of servility and superstition communicated, by a frequent and voluble mention of “hell-fire.”

Almost as unwise, though not so harmful, is the attempt to ignore altogether the existence of a retribution after death, in teaching children. Much better is it to recognize with very rare mention—but very clearly, when mentioned—that there is a future Life, and a future Judgment, of which we know little more than this, that it will be in the hands of One who is perfect Justice as well as perfect Mercy; and that the future Life and future Judgment will differ from the present Life and the present Judgment not in being more lax and indulgent, or more severe and stern, but in being more manifestly and perfectly just and merciful, because hereafter there will be no vestiges of Evil striving to obscure and hinder the Good.

22. On one point more especially the child may be allowed and

encouraged to think definitely of Heaven, viz., as a place where there will be a meeting of those who have loved one another on earth.

Of all the encouragements and helps to a good and pure life, next to the loyal worship of Christ, there is perhaps none so powerful as the mention made in daily prayers of the names of those who have gone before us to the unseen world, with whom we trust and pray that we may be hereafter reunited. Let those who care more about words than about meaning tell us, if they please, that Heaven is not a *place*. Admitted. We will go further and admit that nothing will be, and perhaps that nothing even now is, precisely or even approximately what we suppose it to be. Yet if we believe that our best and noblest aspirations come from One who is able and willing to satisfy them, we must needs think that corresponding to every pure wish that we entertain on earth—and what wish can be purer or more natural than this?—there will be some spiritual satisfaction in Heaven, not indeed the same as we suppose, but differing in being infinitely better. And so, as regards the meeting of friends in the second life, while admitting that there will be no “place” and “no meeting,” we may still retain the belief that there will be something corresponding to “meeting” in something corresponding to “place.”

58. HOME INFLUENCE ON THE CHILD AT SCHOOL.

1. As to boarding-schools, the writer knows little that is not known to the ordinary run of parents; and therefore the following remarks are intended for those whose children are attending day-schools.

2. But the following rule applies still more to boarding-schools than to day-schools; viz., that the father should warn the boy against some of the temptations to which he will be exposed. Cheating in various shapes, and indecency, or impurity more or less grave, are sure to be found in any large school; and sometimes in small schools these evils are still more prevalent than in large ones. This being the case, it is only fair to warn a boy what he will have to meet. Let him be told that he is to keep out of these things; and, without making himself a “prig,” he is to use the earliest opportunity that may be presented to him, when he rises in the school, for setting his face against faults such as these and for helping his school-fellows to check them.

Against evils of the latter and graver kind, the father ought to warn a boy with somewhat more distinctness. Many a boy, even in childhood, goes wrong simply through ignorance and for want of warning.

3. If the parents are selecting a private school, they ought to take great pains to ascertain the qualifications of the teacher.

The expensive preparatory schools intended to prepare boys for the principal Public Schools are many of them of well-known excellence; but the average private school for the middle and lower classes is at present (1882) very bad indeed, and perhaps now hardly equal (in intellectual training) to the average standard of Public Elementary Schools.

4. A day-school presupposes a good home.

What the house-master (who stands *in loco parentis* to the boys in his house) does at a boarding-school for his pupils, that the parents must do for their children at a day-school, if the boy at the day-school is to make the same moral and intellectual progress as at a boarding-school. At a good school boys ought not to need assistance in their studies at home in order to keep up with the class; but they will often make more rapid progress if they have some occasional help at home. Few parents are likely to be able to give this assistance so efficiently as a house-master; but the deficiency is often more than compensated by the general influence of home life and the stimulus of the boy's desire to obtain the approval of his parents.

5. The boy should be encouraged, if possible, to walk to and from school; or at all events part of the way. Walking, especially with an object is good mentally and morally, as well as physically; enabling a boy to be for a time by himself, and to think over matters that have perplexed him in the day.

It is one of the great drawbacks to the great advantages of the boarding-school system that a boy is not enough by himself. Every hour, almost every minute, is filled up either with work or with play; and some boys are in danger of living on from the beginning of term to the end without having half an hour to think. "Calling over," every hour or two, compulsory football or cricket, and abundant Scripture lessons on Sundays, are excellent devices for preventing boys from thinking about mischief; but, if carried to excess, they may sometimes have the effect of preventing a boy from thinking at all.

6. The parents should coöperate with the school by giving their son fit time and place to prepare his home-work, and by seeing that he gets his meals in such time that he may be punctual in attendance.

On first going to school a boy should receive a hint or two from his parents as to the means for ensuring punctuality; *e. g.*, he is to get his papers and books ready overnight, and always to put them in one place where he is sure not to miss them when he starts in the morning.

7. Parents should show their interest in the boy's progress by inspecting his register of marks or places, say once a week, and by asking him questions about his work, his sports, his school-fellows, etc., striving as far as possible still to "keep touch" with the boy, although he has now passed out of the sphere of home-teaching.

8. Yet though the parents should take an interest in "marks," and a "high place" should be held up as a natural object for the boy's honorable ambition, they should never fail to remind him that a "high character" is much more important.

There is now in our English schools perhaps too much, certainly not too little, of emulation, competition, prize-winning, and marking; and for the majority of boys the parental influence will be well exerted in counteracting this competitive tendency. For a quick, ambitious boy the counteraction is useful in preventing his ambition from running to excess; and for a dull and backward boy it is no less useful in

showing him that there are other objects and prizes besides medals and book prizes, viz., the approval of teachers, parents, and conscience.

9. If a boy goes to a boarding-school, he may need occasional warning that he is not to become an athletic fool; but if he goes to a day-school, there is on the other hand the danger that he may become an intellectual milksop.

Pupils at day-schools should therefore be encouraged (if they need encouragement) to make the best use of the training afforded by gymnasium, fives courts, etc. For rowing and swimming there are abundant facilities in almost all large towns; and parents should not let their children pass the age of twelve or thirteen without having learned at least these elements of athletics.

10. When a boy is at a private school, or under a young master at some public school, where the classes are too large or the supervision is too lax, he may sometimes waste a whole term, without any misconduct or laziness so flagrant as to bring the matter before the school authorities or arrest the parents' attention.

Therefore for young boys it will be a great advantage if the parents will now and then test their progress by one or two simple questions: "You say you have finished fractions; then what do $\frac{1}{2}$ and $\frac{1}{3}$ make? You are getting on in Latin; then let me hear the future of *rego*, and what is the English of *Naves nautae habent*? You are practicing English composition; then write me a short letter describing what you hope to do in the next holidays."

Parents shrink from doing this, because they think it is out of their line, and above their capacities. Unhappily, the questions that are capable of eliciting the ignorance of boys are generally within the compass of the meanest understanding. But if they have any diffidence themselves, let them take the boy to some competent friend who will do it for them. Five minutes a month, during the first term, will enable them to ascertain whether their boy is learning anything or nothing; and for want of this little supervision how much is sometimes lost! At a Public School the boy wastes a whole term, gets a bad Report, and returns to school morally dejected and intellectually demoralized. Or, still worse, he wastes a whole term at a Private School, gets an excellent Report, and returns to school well satisfied with his failure, and still more intellectually demoralized; and after two or three years of time similarly wasted he leaves school with six excellent Reports, to find every Public School closed against him because of his hopeless ignorance.

11. Without encouraging boys to "sneak," the parents may seize fit opportunities, two or three times in the year, to ascertain whether any moral epidemic appears to be prevailing or springing up in the school; and very often, without mentioning names, they can give such assistance to the school authorities as will enable them to stop mischief almost before it has begun to be mischievous.

THEORY AND PRACTICE OF TEACHING.

BY REV. EDWARD THRING, M.A.

Head Master of Uppingham School, Late Fellow of King's College, Cambridge.

PREFACE.

It is ill protesting too much. Many good resolutions of silence made and confirmed during thirty years of school work, as every hope of a public character which brightened the early days was destroyed, have been broken by the appearance of this book. Success only strengthened the conviction that it was useless to speak; and yet when the conviction seemed strongest some folly has swept it away. Or is it instinct, like the prescient idiotcy of the butterfly, that lays its eggs on cabbage leaf or nettle, forced by a blind impulse to thwart its own experience, and deposit part of its life where no sign warrants an idea that it will be allowed to live? Perhaps a strong belief that anything, which has a touch of true life in it, will live somewhere or other is at the bottom of it all, however overlaid by chiller wisdom. So this bit of life goes forth. And if it does any work or worker good, cheers or helps a single toiling fellow-worker, the writer will have had his reward. It may be that another hand and heart may take this up, enrich it with wealth of his own, fill it full of prevailing power, and send it on, a higher creation, in a fortunate hour, to a happier end.

THE SCHOOL HOUSE, UPPINGHAM, May, 1883.

EDITORIAL NOTICE.

The general principles and many practical suggestions of this little treatise by an experienced and successful teacher, are of universal application, but the book is the production of the Head Master of a classical school, and the illustrations are drawn from the observations and doings of boys in Greek and Latin classes.

The volume is dedicated to our old friend and co-laborer, Rev. R. H. Quirk, on whose urgency it was written.

A glance at the Contents with its characteristic phraseology on the next page, will give a good idea of the volume.

Material to Think about.

“Material to think about.” That is the heart of the whole matter. There can be no thought without material for thought. The baby with its wondering eyes for a time gathers material, even as it takes food, by a natural process. It cannot help doing so. After a time, the curiosity excited by novelty without and by life within is somewhat satisfied by familiarity with the outside of the objects most often seen, or repressed by contact with ignorance and commands to stop unwelcome questions. At this point, where the first curiosity ceases, true education begins, by lifting up a little corner of the veil of the world of common things, and showing that there is an inside as well as an outside to be seen. Thus observation, instead of curiosity, or, rather, as a trained development of curiosity, begins the work of intelligent progress.

The first advance on unconscious absorption of material of thought is the implanting a habit of observation, that is, of consciously gathering material for thought. Here, again, is solid ground and good foothold,—leg-work, not wing-work. Observation is only a better name for patient, well-directed work, a name for learning to see by getting, and waiting long on that which is worthy of being known.

It is recorded of Turner, the great painter, that he was seen to spend a whole day in throwing pebbles into the water, whilst others were working away round him. Throwing pebbles into the water! With what contempt a machine-intellect, with its mechanic power of turning all into a kind of philosophic ledger, would visit such a childish proceeding. How the cold calculating fact-machine would scoff. But there are worlds on worlds; higher worlds with their inhabitants; and the great painter, working in the world of life and living thought, knew what he was about. His power of observation was so great, and his patience and love so unwearied, that, with his trained eye, he could find intense interest and gather lessons above all price from the ripple, and the waves, and the play of light, and harmonious discord of varying movements, from the common curves made by a common stone falling into common water, over which an untrained eye and mind could not spend a profitable moment. Before his eyes was spread the ever-stationary, ever-moving mirror, the changeful eternity of light that flows, the gliding earth-born light of water, with its strange memories of higher worlds, and strange affinities to cloud and sky, free beyond all earthly things to come and go, still loving to borrow, as it moves, brightness from sky and gleams from cloud or shore, and welcoming in its bosom, like a living thing, all images that reach it in its course. He stood and looked upon it, and tried to unlock its secrets, and, conscious or unconscious of the full interpretation, caught some glimpses of the great illuminated text of the book of the thoughts of God, appreciated the exquisite subtlety of the handwriting of speech divine, became a kind of living microscope in his power of seeing unknown beauty, and then handed on to us non-seers the gain of new discovery, to be henceforth part of the possession of the world. A common stone thrown into common water could thus become a prophet revealing truth. But to whom does the prophet-voice of stones and water speak? A careful analysis will show that the great painter, the

genius, could see and understand, because he had learnt by years of patient work to observe more than other people. The child begins its first attempts at drawing by a few bounded lines from an unpracticed hand, that will not do its owner's bidding, and an unpracticed mind, that as yet has not much bidding to give; and under it he writes cat, or dog, or cow, as the case may be, and the writing is necessary. And unless hand and mind practice, that is, work, they will never do more. Turner himself, had he been debarred from practicing his hand, and not permitted to exercise his eye, could have done no more. It is quite immaterial to this argument what the difference may be between any pupil and Turner before they end. The all-important fact remains, that, for a long time, the path of both is the same, and the still more important fact, that the teacher has, as his province, that path, and that path only, as far as the external aspect, both of his own and his pupil's work, is concerned. The teacher has no concern with the beyond; but the fact that the vast majority never get within sight of the point where a beyond begins, but remain in the limbo of little-boy drawings, and such like, does concern him very much indeed. The point at which observation begins, and at which it stops, a point very often but little in advance of the unconscious vision of the child, is his business.

Genius and Work.

Genius is an infinite capacity for work growing out of an infinite power of love. Observation is work; without observation there is no thought; without material to build there is no building. Whether it is pleasurable or otherwise, poet's or schoolboy's, observation still is work. And the ideal, after all that foggy enthusiasm can do to mystify, or blowers of glittering bubbles can blow, is but the final expression of the highest thought produced by the greatest knowledge and feeling; and the greatest knowledge and feeling is produced by years of patient, loving work, in a mind originally strong and susceptible. No doubt this is a most unsatisfactory and prosaic conclusion for angels, and wings, and the empyreal to arrive at; but intensely comforting, happy, and real, to an earnest man, who is ready to humble himself to watch and wait on what he loves. It gives the absolute certainty of success in proportion to the means employed. Observation, work, love of work—these are the masters of the world. By these that high training is built up which deals with life and mind as all other pursuits are dealt with, and learns faithfully from the first rudiments to the complete end, and no more thinks it beneath his notice to do the lowest kind of work than a musician thinks it beneath his notice to know his notes.

Work, simple, straightforward, intelligent work is everything. The strong and the weak alike, the genius, as well as the slowest mind, must go through the same work till they part company, as perseverance, strength, and love, carry the best minds farther. There can be no thought till there has been observation. There can be no observation without work. The highest form of human existence is the power of working unweariedly and prevailingly, lovingly wooing, and winning power by love. One word, rightly understood, contains it all,—WORK.

How to Learn.

The boys do not know how to set about learning; they ought to be taught. This teaching cannot be given through the medium of the unknown. It will be acknowledged that the power to observe a simple thing and answer a plain question is the very beginning of mental training. But the boys neither observe, nor can answer. That is, they do not know the process by which it is done, and learning new difficulties does not teach them. They ought to be taught. It is the beginning of the knowledge how to learn. This assertion can be proved and remedied at the same time. Let the teacher, for example, ask the boys of an ordinary class to give an account of any well-known object. For instance, What's an apple? Minutes on minutes will be spent before any reasonable description of it will be given. In other words, there will not be a single boy out of hundreds who may be questioned in this way who has ever had the quiet bit of teaching given him, that the moment he is required to answer, his business is at once to picture to himself the thing mentioned in as many aspects as possible, one by one, compare it with the things most like it, and then note the peculiar facts which make it different from everything else. To take a second example somewhat more complex. "The sower went forth to sow his seed." If a really intelligent answer is to be given as to the meaning of the word "seed" under such circumstances, the process is, first to picture in the mind a seedsman's shop, with all its various seeds, none better to the eye than another, hard, dry facts, all of them, and to contrast it with the summer garden, where every flower and plant declare what they are, self-revealed. The main distinctions of the seed stand out at once. Next the seed must be pictured in the ground, all its hard, dry nature vanishing; it is full of new movement, roots penetrating in subtle, tender shapes of change, and, as they change, drawing the secret powers of the ground into fresh vitality, the seed thus growing with a growth of its own, and so on. All this kind of truth and power of answer proceed, to a very great extent, by rule, the very simple rule of at once picturing the object named, contrasting it with its nearest neighbors, and noting the peculiarities, which present themselves as things seen, rather than as researches of thought.

To apply this to words. What is the construction of the word "when," we will ask. This is only another form of asking, What is the real meaning of the word "when"? The meaning of the word "when" can only be discovered by framing sentences to show its meaning. A little trouble will make it clear that the word "when," in such a sentence as, "When the end has come, all is over," means, "The moment the end has come, all is over;" and again, in the sentence, "When he was in India, he hunted," that the word "when" means, "at various uncertain times." Nothing can be more different than these two meanings; and, accordingly, the constructions used will be very different in every language in which shades of mood are marked.

Sight supplies the place of thought, as soon as a few plain instructions are given as to how to learn. The fact is, it is impossible to examine and report on—nothing. The beginner has no definite object before his mind's eye, and till he is taught the plain common-sense rule, that he must have a definite object before him, and is shown how to have a defin-

ite object before him, he has not learnt how to set about his work. Years of useless toil might be saved if the learners only knew how to set about their work. Many other devices to make learning skillful and effective will occur to the practical teacher; but, as this is not a teacher's manual, it is sufficient to point the way.

What things the attention ought to be fixed on, and in what way, what to forget, and what to remember, unobtrusive peculiarities that require notice, obtrusive excellences that stick of themselves, these, and many like instructions which experience suggests, can shorten labor, and cause time to be employed to the best advantage. But even to draw attention to the science of learning and the intelligent skill that can exist and may be imparted in the process of setting to work intelligently will be a wondrous advance. As yet, the boy-world, at all events, knows nothing of it. Again, there is another aspect of the not-having-been-taught-to-learn question. No one who has not examined his own class on the work of the past term, and had continued, aye, long-continued experience, could possibly believe that a teacher might spend weeks and weeks in laying down a few principles of work, and questioning, in and out, of the boys a few elementary beginnings of intelligent treatment of sentences, and have those questions answered, and yet at the end find that no single boy had paid any real attention, and that the work had all to be done over again. If this is the case, as it is, with the most carefully worked-out plan, what happens when there is no plan at all, and a mere farmer's-wife scattering represents the work of the operator, and a punishment lottery the condition of the boys? The fact is, the sole idea of work that a great many good boys have is the filling the knowledge shop; and the work they do themselves is their only idea of the process. It never enters their minds that the teacher is there not merely to correct mistakes, hear lessons, and show them word-tricks and examples of successful work, but to point out the way in which they ought to prepare their minds for doing any work at all. And as this never enters their minds, they naturally reject it even when it is done, and, like a bad player of a familiar game, are only conscious of their misses and hits, and superbly blind to the wrong attitude and the clumsy position, which the scientific player knows will leave them comparative failures to the end of time. The art of learning has no existence for them, and they cannot see that they ought to readjust their crooked, self-willed mental postures at the teacher's word; that is not their idea of being taught, and they cannot bring themselves to receive it. They will not take it. This is a very serious evil. Bad work is one thing; but working in the wrong way is another. Every teacher who is a teacher ought to draw a strong distinction between faults of ignorance, which may be pardonable, and faults of refusing to be taught, and persisting in doing things the wrong way in spite of teaching. A sharp, unmistakable line ought to be drawn between the two. The class ought never to be able to confound for one moment the not doing what they can do, and are shown how to do daily, with any mistake, however gross and startling, which is of ignorance, however culpable. But the misfortune is, the mistakes are gross and startling; they get up and hit the master, as it were, in the face, whilst the refusing to be taught is silent, and a planless master does not observe it at all, and accordingly it often escapes scot-free.

Right Point of View—Study of a Cathedral.

A grand cathedral, for example, is a glorious specimen of thought in stone; but to many the stone meets their eyes, and is but stone, with no message of the higher life, of which, nevertheless, it is a most true and living expression. There it stands, vast, immovable, majestic. What is the point of view from which to examine it? It strikes the eye as a great building. The outward form, as it first appeals to the eye, shall claim attention first. When a traveler in the distance, coming to see it, crosses the last hill, ten miles off, the massive walls and towers in the middle of the plain tell him that he has the famous edifice before him; and these are just sufficient characteristics (sufficient expression of thought, that is) to mark it as a building intended for worship. Many are satisfied at this point. Mere distance deprives them of any power to see more; but they have seen enough, and never go near enough to get fuller knowledge, though what they do know may be as familiar to them as their own hands. These are they who, for want of time or inclination, stop short, and always keep their minds ten miles away from their subject. Some go nearer, and at a distance of five miles the cathedral becomes an important feature in the landscape; but the landscape, not the cathedral, is still the main consideration. Many minds never get nearer than five miles. In the precincts all the outside can be seen. Many are satisfied with a definite knowledge of the outside of beauty. But the great purpose does not reveal itself till the reader of mind addresses himself to the inner truth, and lovingly, with a disciple's heart and eye, searches out the history, learns the plan, strives to enter into the secret shrine of the feelings which wrought out the great sanctuary, and to translate out of the stone the speech which in very truth is in it. Then, as he gazes, spirit answers spirit, and voiceless thoughts, breathed out of the fair structure, pass gently into the gazer's soul, and enter there, and there revive the memory of noble minds that built their heart's best into those walls. And all the inventive genius wakes and lives again at the thrill of a kindred touch. Prayers that passed up—words from praying hearts—and were petrified in pinnacle and lofty roof, pour forth their inspiration and their faith once more. Anthems caught in mid-air, as they mounted upwards to the throne of God, column and arch, one blended harmony of worship and praise, peal like great organ pipes in the ear of him whose life interprets life, and roll down all their music, the marvels of the old, old years from the eternal stone, so silent, yet so ready with its story. Thus the dumb walls shall speak, and the beam unlock its secrets, and the cabinet of spirit-knowledge ever open to a spirit that can watch, and wait, and learn. There is solitude no more. Unseen presences sweep to and fro, the void space fills, and all the solid buttresses and towers melt back into the aspirations out of which they grew. The great past lives again, the peopled centuries unfold and throng the quiet scene with countless shapes, as mind reads mind, content to honor, and love, and follow, according as it is led.

Such is the power of getting near, the power of the right point of view, when distance is got rid of, and mind touches mind, and the loving heart of one willing to be led gets closer and closer to the object of its love.

GENERAL AIMS OF THE TEACHER.

A LECTURE IN CAMBRIDGE TEACHERS' TRAINING SYNDICATE COURSE
MARCH 3, 1883.

BY CANON FARRAR.*

PERSONAL ALLUSIONS.

IF this were meant to be a formal lecture before the University, I well might shrink from it, for I have only had a few short fragments of overburdened time to give to it. But I assume throughout that I am speaking only—and speaking, I might almost say, confidentially—to a small body of young men, who intend to devote their lives to the honorable labors of the teacher. I have no claim to address you, even thus familiarly and unreservedly, beyond the fact that I was invited to do so. I shall not pretend to speak *ex cathedra*, or as though by any work of mine I had earned the smallest right to dogmatize; but I might almost begin in the words with which Quintilian begins his “*Institutio Oratoria*,” “*Post impetratam studiis meis quietem, quae per viginti annos erudiendis juvenibus impenderam.*” I should, indeed, have to alter the word *quietem*; for leisure is a thing to which I have bidden a final farewell. But, for twenty years—for twenty years happier than I can hope to see again—I enjoyed the high honor of being first an Assistant-master, and then a Head-master, in great English Public Schools. During that time hundreds of boys have passed under my hands, so that I have had a large share in the training of young Englishmen of every age, and of every degree of capacity. When first I left Cambridge, not only before I became a Fellow, but even before the Tripos List was out, I was invited to this work by the offer, from Bishop Cotton, of a Mastership at Marlborough College. I had not been much more than a year at work—sharing the teaching of the Sixth Form with the Head-master—when I was invited to Harrow by Dr. Vaughan. There I labored for fifteen years. At the end of that time I was elected to the Mastership of Marlborough, and, after nearly

* REV. FREDERIC WILLIAM FARRAR, D.D., F.R.S., Canon of Westminster, was born in Bombay, in 1831, where his father was chaplain, and having been prepared by him, became member of Trinity College, Cambridge, in 1850, where he graduated in 1853, obtaining a Fellowship in his college, which did not prevent his serving for fifteen years as assistant to Dr. Vaughan in Harrow School, or becoming head-master of Marlborough College in 1867, from which he retired in 1871 to be Canon of Westminster and Chaplain in ordinary to the Queen. His fine scholarship and vigorous style has made his various publications (viz.: in Fiction *Erie*, *Julian Home*, and *St. Winifred*; in Philology, *Origin of Language*, *Greek Grammar*, *Greek Syntax*, and *Families of Speech*; in Theology, *Seekers after God*, *Silence and Voices of God*, *Life of Christ* (29th ed. in 1883), *Life and Work of St. Paul* (19th ed. in 1883), and *Early Days of Christianity*) widely popular.

six years of ruling a prosperous and happy Public School, I was taken, sorely against my will, to other work, not only of yet deeper anxiety and severer strain, but with none of the sunshine and brightness of the life which, up to that time, God had granted to me. I love, I honor the work of a schoolmaster. I say with Luther, "If God had not sent me to be a preacher of His word, I should choose, before all things, to be a schoolmaster." If, then, you find my advice homely and commonplace, as indeed it will be, I will ask you to bear with it as being, at any rate, the fruit of genuine experience. That which is not new may yet, perhaps, acquire a certain novelty and a certain worth, when it represents a fragment of the hard earnings of living experience. In the now distant days when I left Cambridge as a youth, no one ever dreamed of training teachers. The art of teaching was supposed to spring into full-born life,—often, I fear, not until the head of the teacher had been cleft in twain in more ways than one. I do not think that one word had ever been said to me about boys, or the best method of teaching them, or the wisest plans for rendering those methods effective, when, at the age of twenty-two, I first took my seat in the Master's chair. *Experientia docet*—"Experience," to repeat the venerable joke of my old Cambridge tutor, "does it." To the teacher, as to all others, experience is the best, if also the sternest, of all instructors; and no one can supersede the necessity for her often painful lessons. But the *pain* of *some*, at least, of her lessons she does not grudge to remit to those who are humble enough to learn from others, and not to despise the application of truths because they are known to be true.

DIGNITY AND SACREDNESS OF THE WORK.

I. When any of you find yourselves in the position which fell to my lot thirty years ago—the position of being suddenly set down to teach a large form of boys, some of whom are only a few years younger than yourselves; boys inclined to fun, perhaps even to mischief, perhaps even to turbulence,—almost the first qualification which I should postulate would be *a sense of the importance, the dignity, the sacredness of your task*. If a teacher is wholly unimpressed by the sense of this sacredness,—an impression which may remain with him, not as a burden, but as an inspiration even in his lightest hours,—I do not think that he will ever make a perfect teacher. The teacher's hand must always be on the tiller, but, if he would steer aright, his eye must ever be on the directing star. His task is sacred, for two reasons:—one, the transcendent importance of the results which it produces; the other, the rapidity and intensity of the influences which tend to those results.

General Aims.

1. When the great scholar Muretus was traveling in the disguise of a beggar, he was taken ill at a foreign town. His illness called for some serious operation; and, talking to each other in Latin, the physicians said, "*Fiat experimentum in corpore vili.*" "*Vilemne animam*

appellas?" exclaimed the indignant scholar to his startled hearers, "*pro qua Christus non est dedignatus mori.*" The anecdote tells us why every soul of every child of man is to the Christian sacred, and even of infinite sacredness. But, quite apart from this thought, the vast possibilities which lie in every human soul should be enough to make the task of its training a solemn and a sacred one. In 1793, when he was expecting every hour to be led off to the guillotine, Dupont de Nemours said,—“Even at this incomprehensible moment, when morality, enlightenment, love of country, all of them only make death at the prison door, or on the scaffold, more certain,—yes, on the fatal tumbril itself,—with nothing free but my voice, I could still cry ‘*Take care,*’ to a child that should come too near the wheel. Perhaps I may save his life; perhaps he may, one day, save his country.” But I think that religious men—men who not only believe in God, but have faith in Him—must feel this more deeply than others, even as religious nations have so felt it. Contrast the neglect of early education and the contempt in which teachers were held among the Greeks and Romans—a neglect and contempt so feelingly portrayed by Juvenal—with the feelings of the Jews, as shown in many passages of the Talmud. In one of these, they tell how once, in a great drought, their greatest Rabbis prayed and wept for rain, and the rain came not. And, at last, a common-looking person got up and prayed to Him who causeth the wind to blow and the rain to descend, and instantly the heavens began to cover themselves with clouds, and the rain began to fall. “Who art thou,” they cried, “whose prayers have alone prevailed?” And he answered, “I am a teacher of little children.” Who shall estimate what the world has gained by wise education, and what it has lost by the neglect of it? “Providence,” as Victor Hugo says, “entrusts us with a portion of its own functions. God says to man, I confide to thee this child.” “All,” says Dr. Arnold, “who have meditated on the art of governing mankind, have felt that the fate of empires depended on the education of youth.” “Give me the children,” said Cardinal Wiseman, “and in twenty years all England shall be Catholic.” “Train a boy well or ill, and of the effects of your training,” said Sydney Smith, “you can neither measure the quantity nor perceive the end. It may be communicated to children’s children; it may last for centuries; it may be communicated to innumerable individuals.” Among the busts of the Roman Emperors at the British Museum, you may see one of a child about six years old. It would be impossible to find a face of more exquisite and winning loveliness. The hair rests in sunny waves about a smooth forehead; the features are full of mirthful innocence. You wish to see what sort of a man that child became. You anticipate a face full of manly beauty. What you see is a face puffed, bloated, sullen, of which you know not whether it repels you most by its brutal sensuousness, or by its sanguinary ferocity. Who had the training of that bright and trustful child? First, a barber

and a dancer; then relatives and parents of exceptional infamy. He was the wild beast of the Apocalypse, the Emperor Nero. On the other hand, consider how many have borne testimony to the truth that a child trained in the way wherein he should go, will not depart from it; will not *wholly*, will not *finally* depart from it,—at the worst will not *so* wholly and *so* finally depart from it as if he had *not* been rightly trained. “I bless God heartily,” said Lord Russell on the scaffold, “that I had the advantage of a religious education; for even when I minded it least, it still hung about me and gave me checks.”

2. Then, besides this vast importance of the effects he may produce, no wise and good teacher should ever forget the rapid intense impressions—often, alas! unconscious, unintended impressions—which, for good or for evil, he will inevitably produce. Every biography is full of the *little* things, the apparently infinitesimal trifles, which have guided or moulded human careers. We all know the story of King Alfred and the illuminated missal. Sir W. Jones attributed his learning to his mother’s invariable answer to his questions, “Read and you will know.” The first impulse which swayed the genius of Vauban, the great engineer of his age, was being shut up in a room which had nothing in it but a clock. “That picture,” said Turner, pointing to a mezzotint of Vandervelde, which he had seen as a boy, “made me a painter.” Mr. Ruskin attributes his Art impulses, in no small measure, to his tracing out the patterns of the carpet, when, as a little boy, he had no toys to amuse him. Darwin tells us how the engraving of a tropic scene in one of his books, as a child, ultimately culminated in his accompanying, as a naturalist, the voyage of the *Beagle*. When we visit Rugby, they show us Arnold’s table, with the inscription on it, written by the present Archbishop of Canterbury, “In hac sellâ Arnoldus literas docebat Ad virtutis veritatisque amorem Domini Jesu invitationem, voce, fronte, moribus suos excitabat.” I remember, years ago, when Dr. Benson, then a Rugby master, showed me the inscription, I told him that the word which struck me most was “*fronte*.” Arnold’s very look, the look of a good as well as of a strong and resolute man, was an education to his pupils. For this reason I am convinced that no *bad* man can ever be a good teacher. Boys catch the very tones of their Head-masters, and, in examining written answers, you may almost tell what school a Sixth Form boy comes from, if you know his master’s handwriting. Teachers have a vaster power in their grasp than any which they can imagine. Humboldt, on the banks of the Orinoco, saw the naked copper-colored children of the Indians rubbing the shining seeds of the Negretia, and amusing themselves by attracting straws and feathers with them. How little did those Indian children guess, how little did even the wisest ancients know, when they observed the attractive powers of rubbed amber, and called it *ἤλεκτρον*, that the force which they were eliciting was the same force which crashes in the thunder, and flames in the lightning! and yet that

men should soon learn to seize it by its wing of fire, and bid it carry their messages in a moment round the girdled globe; or, with its wild spirit tamed to service of commodity, should make their nightly cities as bright as day! But what is the lightning to the spirit of man?

“How swift is the glance of the mind!
Compared with the speed of its flight,
The tempest itself lags behind,
And the swift-speeding arrows of light.”

Understand it, train it, direct it rightly, and you shall send it flashing through the generations, flashing over all the world.

3. Now, in teaching and training, one of your first requisites will be the power of Discipline. It is a curious gift. You cannot by any means always predict who would, or who would not, be likely to possess it. I have known some teachers, very great and very eminent men, who were wholly without it. One of these was my dear friend and teacher, Frederic Denison Maurice. You could not meet a truer man, or look on a nobler face. I had the great advantage of being for three years his pupil at King's College. We all knew that he was a great man, an honored man, a deep thinker,—many of us longed to learn from him; yet, again and again, his lectures at King's College used to be interrupted by childish and brainless disturbances, which either would not have occurred at all, or could have been instantly suppressed by many a graduate of the most commonplace attainments. Another great man wholly devoid of powers of discipline, was my dear friend and fellow-undergraduate, James Clerk Maxwell. His lectures, when he did lecture to large promiscuous bodies of youths, were often a mere bear-garden, in which he was helpless—strong and great and good as he was—either to control or to teach. The *special* gift of disciplinary power—such a gift as that possessed by Pestalozzi, who once reduced to order a turbulent throng of boys by simply lifting his finger—is very rare; the total absence of it is also very rare. It is a sort of knack which may be acquired. When authority is firmly, kindly, justly exercised—when the teacher is calm, and without nervousness, and means both to rule and to teach—when he shows from the first the “*comitate condita gravitas*,” he does not often fail. Most men, after a little preliminary experience, become at least moderate disciplinarians. When I first went to Marlborough as an Assistant-master, in 1854, one so utterly inexperienced, and so exceptionally ignorant of boys, and of Public Schools, and indeed of the commonest facts of life, as I was, might well have thought the task very formidable. The school was in the detumescence of a most ruinous rebellion. The first sight which caught my eye was an inscription on the wall in chalk, in foot-long letters, “Bread or Blood.” I was told a curious history of some of my boys:—how the temper of one was absolutely ungovernable; how another had recently bored a hole into a gas-pipe with a red-hot poker; how the windows of the common-room used, not long before, to be

broken with stones; how, in one master's form, the boys used to catch mice and let them loose. Moreover, I was put to teach, as none of you will be, in a huge schoolroom, in which some six other large forms were being simultaneously taught. The circumstances were so distracting that, in one of my first letters to a Cambridge friend, I said, that to be a teacher one needed the voice of a Stentor, the hands of a Briareus, and the eyes of an Argus. But I soon found that, if a teacher have but the most moderate powers, he is effectually supported, not only by the natural and inherent good sense and right feeling of his scholars, but also by the routine, the discipline, and the traditions of a great school. I discovered in later days, that when, in a great English Public School, a Head-master turned his head, it was enough to reduce a noisy room to silence. The other day, the schoolroom of a certain great school, on a wintry morning, was a tempest of contagious coughs. Now, nothing is more difficult than to keep down coughing. The Head-master got disturbed; he simply said, in the quietest possible voice, "Less noise if you please; repress your coughing,"—and lo! not one cough was heard again till prayers were over. At Marlborough, as a very young Assistant-master, I had the quite inestimable blessing of a beautiful example. Surrounded by difficulties, in a school just out of rebellion, at that time badly fed, and not long before inadequately officered, so crushed with debt that almost the first thing Bishop Cotton said to me was, "You know this school may disappear any day in blue smoke," I saw how, by patience, by humor, by tact, by wisdom, by goodness, by fearless courage, by firm inflexible justice, he became to that school a second founder, and a name and tradition of good for ever. In a moral and intellectual, if not in a physical sense, "*Lateritiam invenit, marmoream reliquit.*" It is needless to say that he was a good disciplinarian.

If, after a year's experience, a man cannot keep boys in perfect order, he will save himself much misery and much obstructiveness, if, as I have advised many a young graduate to do,—for his own sake, and still more for the sake of others—he will choose another career.

4. But I should give this advice, even more strongly, if a master can indeed keep discipline, but it is only the discipline of death; only a discipline maintained by constant punishments. Who can estimate the evil which has been done by centuries of flogging? I quite admit that many a rough nature, trained upon it, has not been much the worse for it. But, if you want to estimate the harm it has done, read De Quincey's Autobiography. As a young boy, I was trained under that system. I was certainly diligent, I was not exceptionally stupid; but yet I was for some time among the victims of Orbilius. For every mistake in the multiplication table—for every slip in an "Arnold's Exercise"—for every bad piece of construing,—the formula used to be, "Hold out your hand"; and there followed an excruciating blow across the tender part of the palm. In my early school days, I have, as an every-day

matter, seen backs scored with red and blue weals, which, in these days, would secure, in favor of the most mischievous street Arab, a verdict in any police court. Down to times so recent has the pestilent practice of the *plagosus Orbilius* reigned supreme. They still show at Rome the birch of the saintly Gregory. I should like every schoolmaster to read the wise advice and reproof of St. Anselm to the Abbot who complained that he never ceased beating the boys at his school day or night, and that they grew up dull and brutal. But the Saint's advice was not remembered. Longchamps, Bishop of Ely, in Richard I.'s time, used to prick his pages with an ox-goad. English literature, from Skelton, who tells us how his back was "scooryd" at school, and Piers Plowman, who says, "You maked the boye so sore with beatyng that he coulde not speake a worde,"—down to Pope, who talks of the birch blushing with patrician blood, and Coleridge, who describes the flagellations habitually inflicted by the Rev. J. Bowyer, and De Quincey, who tells how a brutal flogging drove forth his beautiful brother "Pink" a wanderer in the world,—English literature is full of this gross cruelty. Agnes Paston, in 1457, writes to Greenfield a request that, if her boy at Eton has not done well, "he will truly belash him." She beat her daughter once or twice a week, sometimes twice a day, and broke her head in two or three places. It is said that Lady Russell, daughter of Sir Antony Cook, beat her little son by a former marriage to death, for a blot on his copy-book.

Every one knows how Lady Jane Grey describes the treatment which she received from her own parents, unless she did everything "so perfectly as God made the world." "I am so sharply taunted," she says, "so cruellie threatened, yea, presentlie sometimes with pinches, nippes, and bobbes, and other waies which I will not name,—so without measure misordered, that I think myself in hell." Every one knows how a brutal pedagogue showed off his discipline to Erasmus, by calling up a boy, and shamefully beating him for nothing at all, and simply "pour encourager les autres." One is reminded by these quotations, of what Plautus wrote not far from two millenniums earlier:

"Quum librum legeres si una peccavisses sullaba,
Fieret corium tam maculosum quam st nutritis pallium."

It is literally only in this generation that this reign of terror has wholly ceased. Even in Mr. Bosworth Smith's *Life of Lord Lawrence*, we read that he, when asked whether he had ever been flogged as a boy, replied with grim satisfaction and Spartan brevity, "I was flogged every day of my life at school except one, and then I was flogged twice." If the Teachers' Syndicate had existed in old days, one hopes that such a system would long ago have received its death-blow. And here let me give my deliberate testimony, from six years' experience as Headmaster of a school of more than 580 boys, that well-trained English boys may be guided by a thread; and that, in a good English school, corporal punishment may be so much minimized as to be wholly exceptional, and in some of the best schools almost entirely unknown.

5. But I would apply the spirit of the remark much more widely. I would say, that in ordinary teaching, the more you punish in any way, the worse master you are; that he is the best master who needs to punish least; and that, if such a thing should exist as a perfect master, it is probable that, so far as mere teaching is concerned, he would never have to punish at all. "Impositions," "lessons to write out," "lines," "abstracts," whatever they are called, are, in the essence of them, confessions of weakness. They are in many respects injurious, and there is very little to be said for them. "Write me out five hundred lines of Homer, with all the accents." I have known masters say that, perhaps in a moment of anger, perhaps for no moral fault; but, what a bad punishment! Scarcely ever will the good master have to resort to such a method. When a form sees that he is in earnest; that lessons *must* be learnt; that if they are neglected from idleness, they will have to be said again; where the master is endowed with such gifts, that he can encourage, help, sympathize, inspire,—he will either find punishments all but extinct, or he will measure by their frequency his own incapacity, and his own failure.

6. And I would still further apply the remark to abuse, taunts, sarcasm. I have known masters who habitually shout at their boys, "little fool," "little idiot," "little ass," and so on. A master is very ill-advised to use such language; he cannot do it without great and serious loss of dignity. I have known a master upbraid a boy with stupidity. Now there is a *moral anaesthesia*—a dementation preceding doom—which may sometimes deserve such an epithet; although "*hebetes et indociles pauci admodum; in pueris elucet spes plurimorum.*" But, if a boy be really and congenitally dull—dull, that is, in certain subjects, for a boy dull in all subjects is very rare—"falsa enim est querela paucissimis hominibus vim percipiendi quæ tradantur esse concessam,"—it is as shameful and useless a cruelty to taunt him with being stupid, as to taunt him, as Lord Byron's mother used her son, with a personal defect. A clever and quick master, worried by a heavy, obstinate boy, may be tempted to keen sarcasm. I hold that, except to suppress insolent vice—in which case sarcasm may be used as keen as a razor's edge—such sarcasm is an inexcusable tyranny. I once knew a boy, now in an important position, and an honored and useful member of society, who somehow seemed to invite ridicule, partly by his absence of humor, partly by his peculiarities. Now Bishop Cotton had a singular fund of dry but inimitable humor, and one day he made the whole class laugh by his satirical criticisms of this boy. When the lesson was over, the boy waited, went up to the master, and said with quiet dignity,—“Sir, I am not clever; I dare say my work is very poor; but it is not my fault. I do my best, and I do not think it just that you should make me your laughing-stock.” Cotton listened to him with kind sympathy, and—such is the characteristic mark of a good man—he was never once known to use his powers of sarcasm in the

same way again. I think it may help a master to feel in how very deep a sense it is true, that "*maxima debetur pueris reverentia*," if he will always steadily bear in mind two thoughts—one, that every event of those days will live for years in the vivid photograph of his pupils' memories; the other, that, a year or two hence, he will meet those pupils as bearded men, whom, if he has been unjust to them or unkind, he will be unable to meet without a pang.

7. Then I would say, *Trust your boys*. Take their word whenever it is possible; I would almost say, sometimes when it seems impossible to do so. You will think that, if I have not yet reached my dotage, I must be near it, being in my anecdotage; but, as it is my sole and very humble desire to be of use, I will tell you two incidents which impressed me with the value of this lesson.

[A few days after I went to Marlborough, I was in charge, after dark, of a very large schoolroom full of boys, of whom many belonged to the old *régime*. To keep order among them all, quite unaided, was very far from an easy task. Boys often liked to get out into the court. A boy came up to me with his handkerchief at his nose, and said, "Please, sir, may I go out?—my nose is bleeding." I am sorry to say that I took away his hand. His nose *was* bleeding, and, having had no special reason to suspect the lad, I saw at once how wrongly I had done, and frankly begged his pardon. Some years afterwards, at Harrow, two boys brought me Latin exercises, marked at intervals by the same grotesque mistakes. It seemed certain that those exercises could not have been done independently. I questioned the boys. Both assured me that there had been no copying. One, whom I had always considered a boy of high *morale*, assured me of this again and again with passionate earnestness. I said to him,—“If I were to send up these two exercises to Dr. Vaughan, if I were to show them to any jury in England, they would say that these resemblances could scarcely be accidental, except by something almost like a miracle. But you both tell me, and assure me, that you have not copied. I cannot believe you would lie to me; I must suppose that there has been some most extraordinary accident, of what nature I cannot tell. I shall say no more.” Years after, one dark night as I returned from chapel,—it was so dark that I could not see the boy's face, but only recognize his voice,—that boy, who was a monitor, and near the top of the school, said to me, “Sir, do you remember that exercise in the fourth form?” “Yes,” I said, “I remember it well.” “Well, sir, I told you a lie. It *was* copied. You believed me, and the remembrance of that lie has remained with me, and pained me ever since.” That boy is now an able and distinguished man of letters. I am inclined to think that he was more effectually taught, and more effectually punished, than if I had refused to accept his protests, and had “sent him up for bad.” But, while I am on this subject, I will add my conviction that, during twenty years, I was very seldom told a falsehood. One reason for this was, not only

that I made it a general rule to believe a boy's word, but still more that I took extreme pains to avoid ever *surprising* a boy into a denial, or an equivocation. I believe that many falsehoods are—to quote Cardan's expression—manslaughters upon truth, not murders. They spring from the instinct of self-protection always shown by the timid animal. By a blundering method in this matter, it is fatally easy to entrap a boy—even a boy naturally truthful—not only into one lie, but into a series of linked lies, such as shall injure his character, and rest like a chain of fire upon his conscience, for many a long day—nay, more, such as may involve a long course of self-deception, and fatally undermine his moral strength. If he have been suddenly surprised, by being taken off his guard, into *one* lie, the very shame of so unwonted an offence will lead him into another, and yet another, that he may buttress up the first. Trust your boys; teach them to trust you; rely on their sense of your sympathy and kindness, and not on fear; do not take them off their guard; say a few kind words to a boy; give him time to think; arm him against his own weakness; and you will rarely be told anything which is not true.

8. Once more, I would say, "Do not be too niggardly of praise and encouragement." I say this very earnestly. When I came up to Trinity College, although I had won scholarships and prizes elsewhere, I was, in many respects, very ill-prepared, and I think at least a score of men, even in my own college, would very easily have beaten me. It was, in a worldly point of view, very important to me to do well in the Tripos. Great personal diffidence, added to a temperament which was a very anxious one, weighed heavily upon me. In my last Long Vacation, when time was more than ever important, I caught what used to be called the Cambridge fever. You know that praise and encouragement have never been prominent parts in our Cambridge system of teaching. For most men, perhaps, they are not needed, but for some men they are; at any rate, I am quite sure that, if any one had ever said to me, "You need not be anxious, or distress yourself; you may look forward with reasonable certainty to a first-class," he would have lifted from my mind a load of heavy care. I do not think that, when we have passed these ordeals, we ever adequately recall the pressure which results to many young minds from the ever-extending system of competition. I recall how one man, now of the highest rank, once left Cambridge suddenly in an agony of disappointment, after failing to win a scholarship. I recollect the case of another, who, though he became a Fellow, yet took to drinking as the result of a comparative failure in the Tripos, and now lies in a nameless grave. I think of a Marlborough boy, a bright young lad, who went to Oxford, and on the very eve of an examination was found dead, with a gun beside him, in his own rooms. This *mandarinat*, as a French writer calls it,—this Chinese system of competitive examinations, which results in part from the high pressure of difficulties in an over-crowded country,—has its

dark and evil side; and I think that teachers may diminish its evils. By a little judicious praise and encouragement, they may often dissipate needless anxiety. They may always, in their general training, put competition on its right basis; they may show boys that it is not everything; that it does not always, or often, test the highest gifts and qualities; that failure in it need not be nearly so fatal to their prospects as they suppose. I remember how Henry Martyn, in his *Life*, tells us how much he was calmed and strengthened, on the eve of the examination which left him a Senior Wrangler, by a University sermon on "Seekest thou great things for thyself? Seek them not, saith the Lord." We may always teach our boys to look first and most to that competition in which no good man can fail. We can, with Mr. Ruskin, say to them, "I want you to compete, not for the praise of what you *know*, but of what you *become*, and to compete only in that great school where Death is the Examiner and God the Judge." And our encouragement may, most of all, be needed by those who do not excel at all in the studies with which we are most directly concerned. "He took me," said Jeremy Bentham of the late Lord Lansdowne, "out of the bottomless pit of humiliation, he made me feel that I was something." I once had a pupil who did not succeed at all, or only very moderately, in the ordinary curriculum of schools. He is now a man of high political and literary distinction. I know no pupil of mine, however brilliant, who is so likely to climb to the highest things; and he always says that the self-reliance which has helped him forward could never have sprung up, but for the early and cordial recognition of power which found no play in the school routine. And, as illustrating what I have said about the encouraging recognition of merits which lie outside our ordinary school routine, I think that you will all be interested to hear a letter which I once had the honor to receive from Charles Darwin. Knowing him slightly, I sent him a lecture of mine, delivered sixteen years ago before the Royal Institution, on "Some Defects of Public Education." "I am very much obliged," he wrote, "for your kind present of your lecture. We have read it aloud with the greatest interest, and I agree to every word. If I had been a great classical scholar, I would never have been able to have judged fairly on the subject. As it is, I am one of the root-and-branch men, and would leave Classics to be learnt by those alone who have sufficient zeal, or the high taste requisite for their appreciation." Then, after very kind words to me, which I omit, he adds,—"I was at school at Shrewsbury, under a great scholar, Dr. Butler. I learnt absolutely nothing, except by amusing myself by reading and experimenting in chemistry. Dr. Butler somehow found this out, and publicly sneered at me, before the whole school, for such gross waste of time; I remember he called me a 'Poco Curante,' which, not understanding, I thought was a dreadful name." This letter of a great man is, I think, instructive in many ways. It illustrates our vivid memories, even to old age, of words

spoken to us in early boyhood. It illustrates how undesirable it is to sneer. It shows how minds of the grandest capacity may not even be touched by an exclusively classical curriculum. It shows how much we should try to have wide appreciation of differing gifts and to be many-sided in our teaching.

PRACTICAL METHODS.

II. Hitherto I have been speaking mainly of those fundamental aims and considerations which must underlie the teacher's work. I will now make some general remarks on matters directly practical.

1. I would say first, "Make a rule of regularity and faithfulness in routine duties." I would not have this rule treated with morbid and pharisaic rigidity. I would not see a teacher sink into the slave of routine. It is much more important that he should remain vigorous, fresh, in good spirits, and constantly equipped with new stores of knowledge, than that he should invariably pay tithes of mint, anise, and cummin in minor duties. Take the correction of Verses. I groan and grieve to think over the number of hours, and *days* of hours, in my life, which have been irrevocably wasted, and worse than wasted, in the execrably bad system—killing to the master and worthless to the boy—of turning boys' bad exercises into "fair copies," and transforming the crippled and hobbling lines of boys into a wooden semblance of soundness. I hold it to be one valuable service in life that I gave one of the first, and one of the strongest, blows to the practice of teaching Latin verses to all boys alike, which entailed no small part of this senseless and useless drudgery. I must not, however, digress into that topic, but will say that, given a human and sensible system of written exercises, they ought, as a rule, to be faithfully looked through and marked. A great man, indeed, may do without this rule. The late Bishop of Manchester, Dr. Prince Lee, did not follow it. I have heard one of his illustrious pupils describe in old days, how he would sometimes have a whole drawerful of uncorrected exercises, and then, summoning up a boy, would take one of the exercises, almost at random, and correct it or criticise it in such a way as the boy never forgot. With such a man as Prince Lee such a system will work well; but, if an ordinary man does not make a rule of noticing his boys' written work, they will assuredly cease to take pains with it. A Head-master once told me that he had never quite got over the pain he felt because *his* old Head-master never so much as looked at a particular exercise with which he had taken extraordinary pains, and which he considered to be the best he had ever written.

2. Then I will say,—Always, even for the lowest form, *prepare your work*, or at least look at it beforehand. A Scripture lesson, a History lesson, even a construing lesson of ten or twenty lines, will be better and fresher by far, if you have at least glanced it over; much more if you have considered beforehand how best you can bring it out.

Perhaps you will tell me that Dr. Arnold by no means always prepared his lessons. "Any hard word in the Aristophanes?" so one of his pupils tells me he used sometimes to say before a lesson; "if so, I shall be floored." But this, perhaps, was the reason why Dr. Arnold fell into little scholarship-traps, which some of his best pupils were sometimes audacious enough to lay for him. He never pretended to know what he did not know, and would always pause to look out a word in his lexicon in mid-lesson before his form. But Arnold was Arnold; and a dwarf is ill-advised when he tries to array himself in the garments of a Colossus.

3. If you prepare your lessons, you will better fulfill another requisite of the teacher, which is to *make your lessons interesting*. It is a very old principle, but a very wise one. If the draught must often be unpleasant, there is no harm in tinging the rim of the cup with honey. I do not only mean that the teacher's *manner* should be free from the preternatural dulness, which makes of a lesson a veritable imprisonment to a lively boy. A story used to be told of my dear old college tutor, E. M. Cope, how, on one occasion, without changing one muscle of his face, or one intonation of his voice, he interpolated into his lecture the remark, "What I am now telling you is, I believe, entirely new and most important. It has cost me very long and toilsome research to discover it. And, exactly at this point, I observe that not a single person in the room is paying me the smallest attention." He then continued as before. But I will undertake to say that, had his manner been less despondent and more vivacious, every one would have been listening.

"Ridentem dicere verum

Quid vetat? ut pueris olim dant crustula blandi

Doctores, elementa velint ut discere prima."

But, if it is important that the teacher's manner should not be dry and dull, it is much more so that he should enlist on his side the intellect, the reason, the imagination, the fancy. Is it not deplorable to think, for instance, that, in old days, we used to struggle through the sandy wilderness of numberless inflexions, without so much as a gleam of light being shed on us as to what an inflexion is! Even a young child will go through the frightful ordeal of learning the 1,200 forms of a full Greek conjugation, if he has once mastered the conception that not one of these inflexions is arbitrary, or accidental, and that—for instance—such a form as ἐτετίμηντο consists of six parts, and contains the elements of at least five words. I undertake to say that a few hours wisely spent in teaching a boy the nature of words, the difference between loose prefixes and close suffixes, and the simplest elements of philology, would spare him endless labor and make his labor more interesting. Is it not deplorable to think that we used to regard the aorist as a sort of unknown Greek monster, with no one to tell us that our own language, strictly speaking, and apart from auxiliaries,

possessed no tenses at all except aorists? and that the laws of the Greek and Latin sentence were drummed into us without so much as a hint that the optative and subjunctive exist in Latin and English as well as in Greek, and are governed by much the same laws? Rational teaching is always more interesting than irrational; and, when one only thinks of the dreary and futile toil spent by hundreds of English lads for years together, with the result of *not* acquiring a single Greek verb, it is at least a duty to make the teaching as human as we can. On the interest of the lessons depends very much of their effect, and very much of real as apart from dead and mechanical discipline. When I was a master, if my form was restless, or if boys yawned, I always primarily blamed, not them, but myself.

4. But, if you make your lessons interesting, if you succeed in inspiring your boys with any love for knowledge, you may often greatly help them forward by the influence which will enable you, without difficulty, to induce them to do private work. A boy, by no means clever, whom I wished to get on in Greek Iambics, once did for me, in his holidays, I cannot tell how many hundred verses from the beginning of Beatson's Iambics, as the result of a request so incidental that, when he told me that he had done them, I had forgotten all about it. A boy who has since become a very able Cabinet Minister, and is the heir of an old and wealthy family, once said the whole of the Agamemnon through, choruses and all, to Dr. Butler, as part of his voluntary work in the holidays. Those who have read such biographies as that of Dr. Young, or Mill's account of his education in his Autobiography, or the list of books got through in a country parsonage by the late brilliant Professor Henry Smith, ought at least to be aware how much may be done—done without pressure, done thoroughly, and done delightfully—by an able boy under wise guidance. If exceptional boys are rare, so are exceptional teachers; but very much more may be accomplished, even by ordinary boys and by moderate teachers, than is commonly supposed. I feel a strong conviction that, in spite of all our vaunted nineteenth-century wisdom and enlightenment, we are still, in matters of education, in a very rudimentary stage; that we follow many mistaken aims by many cumbrous and ineffectual methods; and that, except in the one matter of kindness, we are, both in theory and practice, far behind many teachers who lived in ages which we affect to despise,—ages when athletics were not so exclusively idolized; when ladies could write and speak in Greek and Latin, as well as several modern languages; when Erasmus read by moonlight, because he could not afford a penny to buy a torch, and the boy Milton had made such striking advance by the age of ten.

5. In the same direction would be my advice to make all the use you can of *illustration*. I employ the term in its widest sense. To illustrate a subject means to throw light upon it, and men had discovered, thousands of years ago, that the memory becomes more impressible

through the eye than through the ear. If you are dealing with some historical scene or character, no way of impressing facts upon the memory is comparable to that of putting your pupils into immediate contact with the person or event, by letting him see or handle something which visibly recalls it. A coin, a medal, a bust, a picture, an inscription, a relic, actually examined and handled, will do more to awaken the interest and to impress the memory than almost anything which you can say. The coins, the photographs, the casts, which can now be obtained on such easy and favorable terms from the authorities of the British Museum, are invaluable for this purpose; and I can imagine a public schoolmaster, at the cost of a few pounds, getting together for his own use a sort of little museum, which would constantly add life, vividness, and interest to his lessons.

6. It is needless to multiply instances; but I would strongly urge illustrations of quite a different character—illustrations from historical parallels, illustrations from modern literature, modern poetry, modern languages. I think that, in teaching an Epistle of St. Paul, a boy will better understand the touching messages in the last chapter of the Epistle to the Romans, who has had read to him the exactly analogous dying messages of “the Apostle of the High Alps,” Felix Neff. He will better feel the pathos of St. Paul’s request for his books and parchments and cloak, if his attention be called to the minute but wholly unconscious parallel, supplied by Tyndale’s touching letter from his chill and melancholy prison. The letter to Philemon will shine in brighter colors, when it is compared with Pliny’s letter to Sabinianus. The serene cheerfulness of St. Paul, in his Roman imprisonment, will appear still more beautiful when contrasted with the way in which exile, and trials far less intense than St. Paul’s, affected the minds and writings of Cicero, of Seneca, and even of Dante. When I was a schoolmaster, I never used to read with my form a Greek play, without the constant endeavor to compare it with modern tragedies on the same subject, and to brighten it by all the modern parallels which I could find. I think, too, that the teacher may often be helped, by calling attention to brilliant translations and imitations of classical authors by men of genius.

7. I would say, in conclusion, *Try to be many-sided*. Bear in mind that, while our present system of classical education continues, a boy who leaves in a low form has, in literal fact, spent the greater part of his time in *not* acquiring the merest rudiments of Greek accidence and Latin construction. He may learn much from his companions, much from contact with other minds, much from the general routine and training of the school; he may have many incidental chances of knowledge; but I must say, quite deliberately, and as the result of induction from wide experience and very many testimonies, that, *so far as mere intellectual equipment is concerned*, a non-classical boy, an ordinary boy, who leaves in the low form of a public school at the age of sixteen or

seventeen, has received the worst of all possible educations. It may be the best that is to be had for him, but, as Talleyrand said, it is "execrable." We are told of some Scotch official, who, visiting a school and making a little speech, called it "this excellent *cemetery* of education." The other day, a lady wrote to a Head-master, asking him to "*inter*" a boy in a certain public school; and he, entering into the unconscious jest, wrote back that he would "*undertake*" it. Many a truth has been spoken in jest or by mistake, and I fear that boys not a few have been intellectually "interred" in our various "cemeteries" of education. Things are, however, far better in this respect than they were thirty, or even twenty, or even ten years ago. Still, I cannot but think that a little brightness, a little variety, a little imagination, might save much of our classical teaching from being needlessly infructuous. Take Mythology. Could any lesson be more suggestive, than a proof of the extent to which Mythology is, on the one hand a disease of language, on the other a poetic and imaginative conception of natural phenomena, and yet that it reflects the deepest experiences, and gives expression to the strongest moral instincts of mankind? A dozen sentences from Bacon, or from Ruskin, about Heracles, about Ixion, about Atalanta, about the Harpies, about the Nemean lion, might give a boy lessons full of poetry, imagination, and moral wisdom which he would never forget. Horace is very commonly read in all schools. I can imagine no lessons which can be made brighter, more suggestive, more instructive, even for ordinary boys, than good lessons in the Odes of Horace; and yet remember how even a boy so exceptional as Lord Byron says,—

"It is a curse
To *understand*, not *feel*, thy lyric flow,
To comprehend yet never love thy verse,
Although no better moralist rehearse
Our little life, or bard prescribe his art,
Or livelier satirist the conscience pierce,
Awakening without wounding the touched heart."

It is more than time to conclude these slight hints. Let their slightness and their feebleness be pardoned, and let me only say, that the teacher who has been so blessed as to begin his high work with pure and lofty aims, and to carry it on with intelligent and fruitful methods, has not lived in vain. Some, at least, of his pupils will love him, and honor him, and be grateful to him. Some whom he will never see again, will yet say of him,—

"Still may he find, as slopes life's downward tide,
Each wish, each joy our thoughtlessness denied,
Each passing hour a happier influence shed,
And age steal softly on his honored head."

Yes, it may be that some tears will be shed by those who stand beside his grave.

CLASS TEACHING.

LECTURE BEFORE COLLEGE OF PRECEPTORS, JUNE, 1883.

BY REV. R. H. QUICK, M.A.

Late Assistant Teacher in Harrow School.

Advisedly and deliberately, I call class-teaching one of the most delightful occupations in the world. But I am well aware that many people have not found it so. We have all heard a good deal of nonsense about the teachers, like the poet, being born and not made. The same may be said with at least as much truth of every skilled occupation under the sun, and of some unskilled occupations also. A young scarecrow with a good pair of lungs is a born scarecrow compared with a boy to whom Nature has given a feeble voice that cannot be heard half across a field. There are infinite varieties of natural endowment; but few indeed among us are so gifted as to excel merely in virtue of our natural endowments, and few are so deficient that they cannot, by perseverance, attain to mediocrity. But though this seems to me true of teaching, and of most other employments, I admit that natural gifts are sooner tested in class-teaching than, as far as I know, in anything else. Nature has given some people the art of keeping order when teaching the young, and denied this power to some (though, as I believe, a very few) others. Wherein the power consists no one can tell, and no one can say beforehand who has, and who has not, this power. Like courage, it is seen only when wanted. A friend of mine once gave me an instance of this. "When I was a youth," he said, "I was in a very large and troublesome class. Disorder was an established tradition. We changed our teachers pretty often, as nobody could manage us, and things only went from bad to worse. At last a young man came with whom we expected to have great fun. He was very young and small and feeble looking. The first day he took us he walked to his desk and sat down, opened a written paper and read it to himself as if he was alone in the room. We talked and laughed as usual, and were wondering what trick we should play, when he quietly looked up and gave one tap with a key on his desk. We were silent in an instant, wondering what was coming. The master began to speak in a low but clear voice, and told us he had prepared a scheme of work, and should expect us to do this and that. Something in his manner, not in what he said, riveted our attention, and from that minute there never was the smallest sign of disorder among us." Here we have an instance of the natural gift showing itself in its might.

Sometimes it has to struggle before the victory is gained. Miss Brontë must have had such a struggle in Brussels, and she has turned it into material for admirable narratives in *Villette* and in *The Professor*. I have known of one or two instances of the opposite extreme. The most remarkable was mentioned to me by a friend in Cambridge. My friend, an excellent judge, had been of opinion that a certain graduate was sure to get a great hold over boys, and he was particularly pleased when he heard that this young man had taken temporary work in a public school. A more disastrous attempt at form-teaching was never made. The boys had the upper hand from the first moment he appeared in the class-room, and the scenes that ensued would be incredible to those who do not understand that a mob is capable of anything.

In these two instances you have the extremes. I have known all sorts of varieties between them, *e. g.*, a master who had a fair hold on his own class had to take another set, and was nervous and uncomfortable. He had a bad time, as he himself told me. Having incautiously asked the ordinary number in a Roman legion, the boys shouted out different numbers, "5,000!" "20,000!" "100,000!" etc., etc., and he found it impossible to stop them. Another class I heard of managed to beguile the dreary hours of school time by a game of "Follow my leader," which they arranged beforehand. When the leader coughed, they all coughed; when he blew his nose, they all blew their noses; and the leader's ingenuity was taxed to invent new performances. The happiest school time this class ever had was one summer day, when a splendid device had been hit upon. They caught a number of bumble bees in pill boxes, and let them out in the school room. These made a good deal of buzzing, but their unassisted powers could not have produced such an extraordinary buzzing as soon became audible. The truth is, you can buzz like a bee without giving any sign you are doing it; and the boys all availed themselves of this provision of nature in such a way that the unsuspecting master looked at the bees with perplexity and astonishment. At last a wily small boy asked if they might with their handkerchiefs drive the bees out through the open window. The master, anxious for their exit, in a weak moment consented, and a scene of the most glorious confusion ensued.

You may wonder why I tell you of such blundering; but these tales of the schoolroom are really very instructive. They bring out very clearly a truth which is all-important to the teacher of a class. A class is not simply a collection of individuals. In Arithmetic, a score is simply twenty units, but a class of a score is not simply twenty boys or twenty girls. It is an entity in itself, and it thinks things and does things that every individual by himself would shrink from thinking and doing. This was clearly understood by a shrewd Head-master of Rugby, before Arnold's time. The Sixth Form were dissatisfied, and

addressed a remonstrance to the Head-master, with all their signatures to it. The Head-master ignored them in their corporate existence, and made them interview him one by one. To each of them he said, pointing to the boy's name, "Is this your writing?" There was no denying it. "Take a pen," said the Head-master, "and run it through your name." And not a single boy refused.

Here is a great lesson for the Form-master. Let him remember that over and above the individuals who make up his form, he has something else to deal with—the form itself. This corporate existence and the subtle influences of what we call public opinion,—the feeling of the whole body, that is, not the private opinion of the individuals who compose it,—exert an immense force, both on the teachers and on the taught. I began by saying I thought class-teaching one of the most pleasurable occupations in the world. I would not say the same of teaching separate pupils, even when they are intelligent and industrious. And the mental development of a member of a class is something quite different to the development of a private pupil. As it has been said, you can no more understand a boy if you disconnect him from his form-fellows than you can understand a bee if you do not think of the hive.

I may say, in passing, that this influence of the whole body on the individual members was clearly perceived by Froebel; and he uses it as one of the main forces in the Kindergarten.

The teacher then has to consider, first, the class as a whole, and then the individuals of which it is composed.

Order, we are told, is "Heaven's first law." Order, though not quite in the same sense, is the first law in the management of classes. But people's notions of order in class differ very widely. Some people take a definition of order which is a negative definition. The class, according to them, is in order only when no motion is seen, no sound heard. Now, there are circumstances in which a form should be kept as noiseless as possible, *e. g.*, when several classes are under tuition in the same room, or when they are engaged in such work as written Arithmetic; but in most lessons the highest kind of order, especially with children, agrees with, and even requires, a good deal of animation, and therefore some amount of noise. One of the best disciplinarians in the country, and one of the best teachers, has told me that he considers what is called the perfection of order fatal to good teaching, and that there has been not a little seeming disorder in the classes of the best masters who have worked under him. The only thing needed for order is this, that the mind and will of the master should be absolutely supreme, that he should be as it were the brains of the body, and the most distant muscle in it should feel what he thinks and do what he wishes. Where there is this *rapprochement* between the head and the body, there is true order: where the connexion is imperfect, the order is imperfect.

I have mentioned some instances of perfect order,—instances in which the class, to use an expressive phrase, *lost its head*; and there are some people who never can feel that they are the head and have control of the limbs; but these people are very few in number. Most of us are not born class-teachers any more than we are born musicians, but we may make ourselves very respectable class-teachers or very respectable musicians if we go the right way to work, and work hard enough. I have known those who had very great difficulty with discipline when they began to teach, succeed perfectly with it in the end. So young teachers should not allow themselves to be discouraged, or fancy they lack the necessary gifts of Nature directly difficulties arise in the matter of order. To dominate a class thoroughly, you must have perfect self-confidence,—you must feel that it is absolutely *impossible* for the class to resist your will. In this way you get a power over the class somewhat like that of the electro-biologist. But this feeling of power rarely comes at first, and till it has come, you are learning your business.

I believe electro-biologists and mesmerists say that controlling the wills of other people is very hard work, and takes a great deal out of them; and this is certainly true of class-teaching. People often forget this; and because a teacher can go on teaching private pupils eight or even ten hours a day, it is assumed that he is not too hard worked if he has class-teaching for not more than six hours. But this is a great mistake. I doubt if any one can teach a class of more than six for more than four hours a day. But you will say, facts are against me. Even boy and girl pupil teachers teach thirty children or more for five and six hours a day. Pardon me: they do nothing of the sort. They stand up before the thirty children: they ask a child here and a child there a question: they cuff or put in the corner a few of the more active-minded, who, weary with the dull constraint, look out for something to do. But this is not teaching; boys and girls, whether you call them pupil teachers or not, are quite incompetent to *teach* a class, and I readily admit that even boys and girls may sit or stand in the presence of a class for six hours a day without breaking down. All I contend is, that if the teacher keeps up the *rapport* which I consider essential with the whole class, the exertion, whether conscious or unconscious, is great, and unless the teacher's health and vigor are much beyond what we ordinarily possess, this exertion cannot be kept up for more than four hours a day at the outside.

I speak of the exertion as conscious or unconscious; for when we are in good health and spirits, we do our work without any consciousness of effort: but the instant we fail in these respects, we find out how severe the effort really is.

I have said that the perfect command of the situation felt by the good class-teacher comes in most cases after long practice, and the young teacher should not be discouraged if he fails at first. Success

usually crowns perseverance in this as in most things, but it is of course of great importance that our attempts at self-improvement should be well-directed. And here I think young teachers should have much more assistance than they usually get. Like young painters or musicians, they ought to see the art practised by those who are proficient in it; and in their own attempts they should be watched and instructed.

Generally speaking the young teacher has no very clear idea what he should aim at. Perhaps he has known very different kinds of excellence in class-teaching. In the manner of some successful teachers there is a good deal of excitement. They are animated, speak much, speak loud and fast, but they manage to keep the class with them, and their animation communicates itself to the whole body. So long as this is the case, so long as the *rapport* is perfect between the teacher and taught, the teaching is really not open to fault-finding. But I own that another kind of excellence is, to my thinking, still more excellent. I remember being, as a boy, first under one master and then under another, in two classes that divided a large, long room between them. In the lower class the master spoke a good deal and so did the boys, and we boys did not at all see the necessity of addressing ourselves exclusively to the master. At this end of the room punishments for talking and inattention were set every school time. At the other end the master never set a punishment of this kind. He had a very quiet manner, and a very low but distinct voice, and he said little, but one word of his had more effect than a torrent of words from his colleague of the class below. The quiet manner, with a reserve of force, is much more the ideal I should aim at than the noisy style which gives a notion of a want of self-restraint. But, after all, we must to some extent form our ideal in accordance with our natural character. The man whose manner is vivacious and tongue active will only be spoilt as a teacher if he endeavors to play the part of one who is cold and taciturn; and, on the other hand, if vivacity is not natural to one, simulated vivacity is worse than genuine coldness. How far we should give way to our ordinary disposition, and thus be "natural," or how far we should aim at something which is not quite natural,—at seeming good-tempered, *e. g.*, when we feel cross, or polite when it would be more natural to be rude,—is a very difficult question which I must not discuss now. For our present purpose it will be enough if we agree that in self-improvement we should take a lesson from the great artists who, as they say, "make the most of a subject," *i. e.*, they suppress the weak points in it and develop the strong points. In this way it must be our business as class-teachers to make the best of ourselves.

I have insisted, and I again insist, that one thing is necessary, and one only, to make teaching good, and that is a perfect *rapport* between the teacher and the whole class. Now, in most cases the *rapport* is

kept up by a silent but most powerful agent in dominating a class—the *teacher's eye*.

There is perhaps no faculty we possess capable of such vast development by judicious training as the sight. "Have you a pair of eyes, Mr. Weller?" asks Justice Stareleigh, in the *cause célèbre* of "*Bardell v. Pickwick*." "Yes, I have a pair of eyes," replies Sam; "and that's just it. If they was a pair of patent million magnifying gas microscopes of extra power, perhaps I might be able to see through a flight of stairs and a deal door; but being only eyes, you see my vision's limited."

Now, this was very neat as a repartee; but Mr. Weller makes far too much of the *physical* obstacles to vision. As a rule, we don't see, not for want of the right images on our retina, but for want of the observing habit and the interpreting sagacity of the mind. It is the old story of "Eyes and no eyes." I once had the privilege of going for a walk with Charles Kingsley. He was new to the neighborhood, but I had been living there some years. The only thing I could think of worth seeing thereabouts was a moated Grange, and to see this we set out. But the Grange was not the only thing Kingsley saw. That *rapprochement* which I say is essential between the teacher and the class, Kingsley seemed to have with the whole of Nature. In every field, in every hedge, he saw, and made me see, what I had never seen before. This extraordinary power of vision seems a gift, but, like all other powers, it is capable of cultivation. And it should be especially cultivated by those who wish to get influence over others. The philosophers at Laputa were so occupied by their own thoughts that a flapper was necessary, who had to strike them with a blown-out bladder to call their attention to what was going on around them. On the other hand, a friend of mine was told by a gentleman who had been connected with Prince Bismarck, that one of Bismarck's striking peculiarities is this, that he never comes into a room without instantly observing everything in it; from which I infer that he would, in some respects at least, make an excellent class-teacher. If we go back to our own school days, we shall probably remember that some teachers had what has been called a "felt presence." I was, between thirty and forty years ago, at a small school, where we were taught a good deal by the usher and very little by the proprietor; and yet the proprietor, though he left the teaching for the most part in other hands, had an eye which made itself felt as soon as he entered the room. The school hours were long, and, when only the usher was present, we spent a good deal of time in making ourselves acquainted with such specimens of English literature (exclusively, I think, in the department of fiction) as were accessible; but we arranged matters in such a way that these works disappeared the instant we heard the footstep of the principal. He somehow seemed to find as much difference in the *outside* of the works of Markham and Marryat as we found in the *inside*. One of the first

counsels I should give to a young class-teacher is,—cultivate your power of seeing; make your eye as it were *conscious* of your pupils, and they will then be conscious of you.

I have met with the following remark in some book on Teaching: "The master's skill is shown not only in seeing, but quite as much in not seeing." There is some sense in this, but as it stands it is not true. Seeing, after all, is the main thing. It is recorded of one of our Church dignitaries that when he was a boy he was odd and observant—characteristics which I believe he has not entirely lost. On one occasion, when he was about nine years old, he was traveling with an aunt, and during the day he called her attention to a series of disgusting objects. "Tommy," said the aunt at last, "how is it you only see nasty things?" Tommy was piqued, and answered dryly, "I see everything, but I only point out to you what is nasty." Now, the class-teacher, like Tommy, must see everything; and like Tommy, he must keep most of his observations to himself. Unlike Tommy, however, he must make more of what is pleasant than of what is disagreeable. In addressing the class as a body, he must seldom, I might almost say never, make unpleasant remarks. A feeling of antagonism is provoked in an instant by collective censure. Finding fault with a class as a body is like stroking the cat's back the wrong way: the animal will either scratch your hand, or at least *wish* to scratch it. Praise of the whole class, on the other hand, if it is genuine, has an excellent effect. I remember for one school term having a very satisfactory set of boys, and I told the class that I could say to them what I very rarely could say—not merely that some boys were doing well, but further that I did not know of a single boy who was not trying to do well. I got excellent work out of that form afterwards, and no boy was likely to turn idle when he knew that by doing so he would destroy the good character of the form. Boys, like men, will do far more to keep a good character than to get one.

This, however, is by the way. I am speaking of using the eye. Our friend Tommy, as we saw, classified his observations, and a teacher may do the same. I know a man who amuses himself by determining to observe for a day or a week some particular feature in the face of every one he meets, or some particular article of dress. He will make, *e. g.*, a comparative study of noses, or of boots. He tells me that after a little while the observed feature assumes such a significance that it becomes the characteristic thing in every man. Perhaps we might determine to observe some particular detail about our pupils (say *e. g.*, and I throw out an instance quite at random, how they hold their pens, and whether there is any connection between the pen-holding and the manner of writing), and having observed this for a day or two, we might record the conclusion arrived at. I take it for granted that every teacher really interested in his work will have a private note-book, and in it will record the results of his experience when his impressions

have their first freshness. He will also sketch out what he wishes to observe and to do, and he will then be able to see how far he carries out his own plans, and how far they come up to his expectations. I know it is hard to find time and energy for the note-book when the day's work leaves us tired, stupid, and sleepy; but unrecorded experience is too often wasted experience; and if we do not put down for our own eye only what we propose attempting, we are not likely to see the right path, or to stick to it when we have seen it.

Before I pass from the eye and how to use it, I will mention a device by which a teacher increases his hold on his pupils. Let him make mental notes of what he sees and *is not supposed to see*; and let him allude to it in such a way as to give boys to understand that he knows more than they give him credit for. Suppose *e. g.*, you observe a knot of boys crowding round Jones, the *dux* in the class, and listening eagerly to a construe of the next lesson. When you hear the lesson, you put on a backward boy, who soon makes some absurd mistake. You say quietly, "Just *think!* I'm sure Jones didn't construe it like that." Or if a piece of poetry is being repeated by Jones, and you observe Robinson trying to prompt him, you take no notice at the time, but presently you put on Robinson. Directly he is at fault you say to Jones, "Tell him, Jones. He was very anxious to help *you*. It's your turn to help him now."

This leads me to speak on a very interesting subject—the use of banter by the class-master. One of the most successful head-masters of our time owed much of his power to his turn for sarcasm. Suppose Brown *quintus* gave up a very bad piece of Latin composition. The master would say before the form, "I haven't had any Latin prose from you lately." "Yes, sir," says the unsuspecting Brown, "I put it on your desk, sir, yesterday." "Oh," says the master, producing the composition referred to, "THIS is what you call Latin prose!" and he proceeds to read out some sentences in which the idiom is not borrowed from the ancient Romans. On one occasion a boy who was supposed to have "come into his property," as the phrase is, and who was rather inclined to give himself airs, sat in a dignified position with his arms folded. The master seized the opportunity. "Harrison," said he, "I wish you would look a little less like a retired statesman." Now a tongue like this makes a man feared in the school-room, as Mr. Disraeli used to be feared in the House of Commons, but in most cases, though not in that of the master I have referred to, or of Mr. Disraeli, it makes him hated also. A boy will sooner forgive a blow than a sarcasm; and the reason is, I take it, this: The young like to feel themselves in contact with the real man. Now, the angry man is the man himself, but the sarcastic man does not show his true face; and the young, knowing this, and being unable to guess what the master's actual thoughts are, feel puzzled and worried and almost terrified. Very few of us, it is true, have much power of sarcasm, properly so called, but we have a

power of *gibing*, and when we are vexed we are sorely tempted to use it. This is a temptation we must do our utmost to resist. A teacher may *occasionally* be ill-tempered without setting his pupils against him. There is only one thing which always sets them against him, and that is ill-nature.

This, then, must be the ruling maxim—"Never be ill-natured!" But banter, raising a laugh in which the victims join, is not only harmless, but often extremely useful. Of course the teacher must have the form well in hand before he can venture on it. If the victim attempts repartee, the master must be able to hold his own without suddenly becoming dignified again. Much tact is needed in such cases: tact such as was shown by a master—now at rest from his labors—who was a well-known joker in one of our Public Schools. On a 1st of April a boy made him believe he had mistaken the day of the week, and then said, "April fool!" The master looked grave, and drew up the regular paper to be taken to the Head-master, which meant a flogging. The crest-fallen joker was leaving the room to take this paper, when he heard behind him from the master's desk the words, "April fool!" and a roar of laughter from the form showed the master's victory.

I have spoken of the use of the eye in acquiring unexpected knowledge. One of the most unpleasant, and often the most demoralizing functions the teacher has to perform is the correction of trifles. He wants a keen eye for trifles, but he must unite with this (and how difficult it is to make the combination!),—he must unite with this the consciousness that, after all, trifles *are* trifles,—not important indeed, far from it—a great part of life is made up of trifles,—but trifles are never to be treated with the grim seriousness which is needful when we have to do with the weightier matters of the law. I told you of a gentleman who takes to observing boots till every one he meets becomes simply the occupier of a pair of boots. The form-teacher, who must observe some things that are not in themselves of the highest importance, may easily fall into a similarly distorted view of his pupils: He must therefore be most watchful over himself, and be sure that he is treating trifles as trifles. He must do his utmost to avoid punishing for trifles. It is a well-known fact that numerous punishments show something amiss, not with the class, but with its teacher, or possibly with the arrangements of the school. Disorder is often nothing more than overcrowding; and what the teacher calls inattention, nothing but the effect of bad air.

However, I must not enter on the large subject of punishments, but one hint I must give. When penalties for trifles are exacted, they may be exacted without any harshness of manner. One Head-master of my acquaintance, when he sets a punishment, does it in this form: "Thompson or Williams" (as the case may be), "I'll trouble you for a check for so-and-so." And the boy named then writes on a piece of

paper, "Pay Dr. ——— such-and-such an amount of lines by to-morrow." This he signs and hands in to the master, who files it and gives it back when he receives the amount set. Another master has established a ready money system with boys who have bad habits which he is bent on curing. These boys have to produce say two hundred lines when they come to school, and show them to the master, but not give them to him. When he observes the failing he wishes to cure, he says, "Wilkins, I'll trouble you for fifty lines," and the lines are handed in on the spot.

The plan of punishing a whole class is often adopted, but seldom I think with good result. It is not likely that all deserve the same punishment, so boys see that to some at least the punishment is unjust. I have known a regular quarrel established between a master and his class, which led to their spending most "half holidays" together in school, to the injury of the boys' health and the master's temper. In my opinion, a master who quarrels with a class, or even with an individual member of a class, shows that he does not understand his business.

Collective punishments are often set to compel a culprit to confess. I have known 300 or 400 boys "gated" to find out who had cut the bark on some young trees. But this is seldom a safe method of detection. It often leads to an innocent but unpopular boy being bullied into a mock confession.

One thing seems to me very important. We must always try to get the public opinion of the class with us even in punishing. The class should feel that punctuality, order, neatness, are good things in themselves, not simply requirements of the master. And even in the work the teacher should always try to find out what the class thinks about it, and he may, with the happiest results, consult the class about the work as a thing in which they are as much interested as he is. Suppose *e. g.*, he finds a particular lesson, say Geography, a failure: he may say to the class, "We are not getting on with the Geography. I am sure you can't like the lesson, or you would do it better. I want you to write letters to me telling me what you don't like in it, and how you think we might get on better." In this way one often learns what is the matter, and is so guided to the remedy. A letter about the work generally is a good thing. The teacher says: "I want you to write letters to me telling me how you spend your evenings. Say exactly how you prepare your different lessons, and which of them you like best." I have myself received some extremely interesting letters from my class on such occasions. I remember a master in a Public School getting his boys to discuss in letters to him the illegal use of translations or "cribs," and to give reasons for or against cribs being tolerated by the masters. On this occasion he allowed the boys to write anonymously if they preferred doing so, but I believe most of them signed their names to their letters.

UNIVERSITY RECOGNITION OF EDUCATION.*

CAMBRIDGE TEACHERS' TRAINING SYNDICATE.

THE establishment of the Bell Chairs of Education in the Universities of Edinburgh and St. Andrews, and the Examination instituted by the London University of candidates for Degrees and Diplomas in the Profession of Teaching, has been followed in 1879 by the appointment of the Teachers' Training Syndicate at Cambridge. The Syndicate thus far has provided for a course of lectures in each term of the academic year, beginning in October, 1879, and ending in June, 1880—Rev. R. H. Quick opening the course on the History of Education in the Michaelmas Term; Mr. J. G. Fitch, on the Practice of Education in the Lent Term; and Mr. James Ward, on the Theory of Education in the May Term. These lectures will be followed by an Examination on the Theory, History, and Practice of Education, at Cambridge and other places, in June, 1880, as is stated further on. The examination is not confined to those who have attended the University lectures.

Introductory Lecture, October 18, 1879.

We have received a copy of Prof. Quick's lecture, introductory to his course on the History of Education, *The Schoolmaster of the Past and the Future*, from which we make a few extracts.

Importance of the Subject and its Neglect.

Suppose yet another commission were appointed to collect evidence about our universities, and suppose that with a view to detached thinking all the Commissioners were selected, with the aid of M. Jules Verne, from another planet. In the witness box we will place as an unexceptionable authority a professor armed with the *Cambridge Calendar*. The Commission has been informed by J. H. Newman and other great authorities that, according to the idea of a university, every branch of knowledge should be taught in it. At Cambridge they have heard that this idea cannot be perfectly realized, that there are a few subjects not sufficiently important for the University's attention; but still that the principal sciences relating to God, to Nature, and to Man are entrusted to eminent professors who place before the students the results of the very latest inquiries. At this point the Commission begins to question the possessor of the *Calendar*. "We hear," says the chairman, "that the studies not cared for by the University are unimportant. What are we to understand by unimportant?" Here the witness judiciously replies that though he is ready to give exhaustive information as to the matters of fact he must decline entering on matters of opinion. The Commissioner rejoins, "It is hardly a matter of opinion that studies are important if they affect the mental or

* See American Journal of Education, Vol. XXVII, p. 193 and 220, for the History of these Chairs, and the Introductory Lectures by Prof. Laurie, and Prof. Meiklejohn.

physical condition of the generality of human beings." This rather formidable sentence, when understood, is readily agreed to. The chairman continues, "We are to understand then that all studies bearing on the condition of human beings receive attention in the University?" Witness, instead of giving a direct reply, reads some extracts from the *Calendar* proving how thoroughly the languages and the institutions of the past are studied, and that investigations are going on even into pre-historic times. The Commission is much impressed, and the chairman says, "All this has no doubt great interest for you. Without a knowledge of the past we cannot understand man as he is. But tell us of the sciences which treat of man as he is, and as he should be and may become." Witness shows from the *Calendar* that there are some sciences studied, such as political economy, which show what man is; and others, such as moral science, which show what he should be; but the witness points out that our leading sciences do not concern themselves with human beings till they are ill and we want to cure them, or fall out and we want to pacify them, or commit crimes and we want to punish them. "We can easily see the need of such sciences as these," says the chairman; "when members of the community go wrong, of course you must endeavor to get them right again. But you have not yet told us of the most important science of all—the science which shows how human beings are to grow up in their right condition; the science which teaches the order in which their faculties develop and the right means for developing them and directing them to their proper work." Witness looks puzzled. A member of the Commission says, "We mean of course the science of education." The witness puts down his book, and says bluntly, "There is nothing about it in the *Calendar*." The *Daily Telegraph* reporter here inserts in brackets () the word "*sensation*."

The Master of the Past.

Sixty years ago a master in an English public school spent his life, pleasantly, we will hope, and not altogether unprofitably, in teaching the established subjects in the established way. There was a story then current which, though probably not true as a fact, has that inner truth which has been said in the case of the Catholic legends, to be truth of a higher kind. A complaint having been made to the head master of a great public school, about the goings on of the boys, he maintained that the boys' vices were no concern of his; they were sent to him to learn classics, not morals. The story puts before us, baldly but not inaccurately, the old-fashioned conception of the work of the schoolmaster; and we see that he had no more need of a science than the drilling-master or the dancing-master. Indeed, there was a great resemblance between him and the drilling-master. Both dealt with boys in the mass; both threw all their energy into the maintenance of an almost mechanical regularity; both not only neglected, but as far as possible suppressed everything peculiar to the individual. What the goosestep was to the sergeant, the Latin Grammar was to the schoolmaster; nobody could become a soldier without the one, or a gentleman without the other. So the boys learnt the regulation amount of grammar, did or got done for them the regulation quantity of verses and construing, and passed on. In each form there were at least from thirty to forty boys, and only the idle or dull remained with the master for more than three months. The master, then, could hardly be expected to take any account of the capacity or the needs of individual boys. The turnpike man might just as well try to find out the pecuniary resources of the people who pass through his gate. He does indeed test their resources up to a certain point; they must give him his sixpence before they can go through; but when he has got this it is all one to him whether the traveler who comes his way be a Baring or a bagman.

To those who maintain that schoolmastering wants no theory, and can have no science, the true reply is this: The old system of use and wont—the "blind hands" system, or rule of thumb, as we may call it—has broken down. A theory we must have, and if it turns out that we can have no science, this will be a very bad business for everybody. Those who now oppose themselves to scientific inquiry, are no more to

be accounted of than so many Mrs. Partingtons trying to sweep back the Atlantic. The scientific spirit is making itself felt in all directions. This spirit calls upon everything to give an account of itself.

This spirit has for many years been gradually forcing its way into the school-room. I find that nearly fifty years ago our present Prime Minister—[Lord Beaconsfield—as the candidate Disraeli to the electors of High Wycombe, in *Times* for Oct. 5, 1832,] in his first electioneering address announced it to be one of the needs of the age “to throw the education of the people into the hands of the philosophic student instead of the ignorant adventurer.”

The Schoolmaster of the Future.

The old schoolmasters, as Carlyle says, “knew syntax enough, and of the human soul thus much, that it had a faculty called memory and could be acted on through the muscular integument by appliance of birch rods.” That this knowledge was insufficient was not so obvious while boys were sent to school merely to learn certain subjects. But it has at length dawned on the schoolmaster that whatever the curriculum may be, he teaches, whether he will or no, much that is not included in it. There may be no mention of “morals” in the time table, but the morals—*mores*—character of his pupils will nevertheless be greatly affected by him. This discovery has made or rather is making a new man of the schoolmaster. From the hour that he becomes conscious of acting not on the memories of his pupils only or even on their minds, but on their whole character and condition, intellectual, moral, and physical, his occupation has a new meaning for him. Important results he sees are inevitable, so he asks himself what results he wishes to bring about and how he should go to work. In Matthew Arnold’s happy phrase he lets his consciousness play freely round his employment, and he finds that the task he has undertaken, far from being the simple matter it was once considered, is indeed one of great delicacy and difficulty. Skill in managing forms, skill in handling the subject-matter of instruction, indispensable though such skill be, is no longer the only, perhaps not the main thing needful. He must have not only skill but insight; he must have a keen eye as well as a skillful hand.

Important changes are usually connected with some great man who is among the first to feel the need of them, and who takes a prominent part in bringing them about. The change in the schoolmaster of which I have been speaking will always be associated in England with the name of its great pioneer, Dr. Arnold. Some one at Rugby said with horror that when Arnold rose in the morning he was prepared to treat everything relating to the school as an open question. The truth was he had opened his eyes and was ready to use them.

Knowledge, and Attitude of Mind.

The knowledge we wish to see acquired by young teachers is not examination knowledge, and though it is available in examinations, its true use is in the school room. It refers partly to theory, that is, to his conception of his task, and partly to practice, *i. e.* to the means of performing it.

Now it seems to me as certain as anything can be that some valuable knowledge may be acquired by young teachers about practical details. But this is not to my mind the chief benefit that they may derive from books and lectures. I look rather to their acquiring a more adequate conception of what they should aim at doing, and also of the immense field of inquiry and observation which lies open to them. They will, I trust, consult books, and come to lectures, to find out not so much *what* to learn for examination as *how* to learn in the school-room.

This lesson, on which so much depends, is often entirely missed by those who will have no instructor but practice; and the reason of this is easily discovered. The young master in a public school finds himself a part of a great machine, and from the day he enters the school all his thoughts and energies are absorbed in the effort to get through the work allotted to him. He sets out with the intention of taking an interest in

his pupils, and with the hope of influencing them for good, both morally and intellectually; but all thought of what *may* be done is soon crushed out of him by the pressure of what *must* be done; and there seems nothing for it but to get accustomed to the routine and to accept results which he feels to be very unsatisfactory. Once in the regular groove, his work becomes indeed tolerably easy, but it also becomes mechanical and dull.

If we can once get the teacher thoroughly interested in the thoughts of the greatest thinkers about education, and at all conscious of the infinite field of observation and varied activity which he may find in the school-room, we have done both him and his pupil the greatest possible service. We have entirely changed the nature of his employment by changing the position of his own mind towards his employment. He no longer thinks of it as a fixed course of routine work, and the dullness of routine at once disappears, to the immense relief both of himself and his pupils.

"When a teacher looks upon his school as a field in which he is to exercise skill and ingenuity and enterprise; when he studies the laws of human nature and the character of those minds upon which he has to act; when he explores deliberately the nature of the field which he has to cultivate, and of the objects which he wishes to accomplish, and applies means judiciously and skillfully adapted to the object, he must necessarily take a strong interest in his work. But when on the other hand he goes to his employment only to perform a certain regular round of daily work, undertaking nothing and anticipating nothing but this unchangeable routine; and when he looks upon his pupils merely as passive objects of his labors, whom he is to treat with simple indifference while they obey his commands, and to whom he is only to apply reproaches and punishment when they disobey; such a teacher never can take pleasure in the school. Weariness and dullness must reign in both master and scholars when things, as he imagines, are going right; and mutual anger and crimination when they are going wrong."—*Abbott's Teacher*, Chap. I.

To those who expect the universities to find out good teachers for them, and to those who, agreeing with me that the universities cannot do this, go on to decry the examination scheme, I would say, "Why expect more, why demand more, from an examination at the entrance of the teaching profession than at the entrance of the other professions?" Examinations are found useful, and indeed necessary, in the case of young doctors and clergymen and officers of the army and navy; but the examiners do not decide who will succeed in their profession and who will fail. All they can say is that, other things being equal, a man with good knowledge will succeed better than a man with inferior knowledge; but they know full well that other things are not likely to be equal, and that a man's success in life (after the university stage of it) will always be due not to that which can be examined, but to that which can *not*. The soldier, if he succeeds, will succeed by courage, by a cool head in emergencies, by fertility of resource in difficulties; but in these particulars he cannot be called upon to satisfy the examiner. The clergyman benefits his parish more by faith, hope, and charity than by knowledge of the ancient heresies; but the bishop is obliged to content himself with securing the less important qualification.

Value of the History of Education.

The object of this first course of lectures is to introduce you to the study of what has already been thought and done in education.

The philosopher Locke says:

"We are all short-sighted, and very often see but one side of a matter: our views are not extended to all that has a connection with it. From this defect I think no man is free. We see but in part, and we know but in part; and therefore it is no wonder that we conclude not right from our partial views. This might instruct the proudest esteemer of his own parts how useful it is to talk and consult with others, even such as come short of him in capacity, quickness, and penetration; for since none sees all, and we generally have different prospects of the same thing according to our different, I may say, positions to it, it is not incongruous to think, nor

beneath any man to try, whether another may not have notions of things which have escaped him, and which his reason would make use of if they came into his mind."

An eminent man, Henry Barnard, who was the first Commissioner of Education in the United States, has maintained that there is no department of human exertion in which preliminary historical knowledge is as necessary as in education. To quote his own words: "By just as much as the young teachers are ardently interested, by just as much as their minds are full of their occupation and fruitful in suggestions of principles and methods for prosecuting it, by precisely so much are they the more liable to re-invent modes and ideas which have been tried and given up before, and thus to waste precious months, or years even, in pursuing and detecting errors which they would have entirely escaped had they learned the lessons left them by their predecessors."

Sources of Information.—Interest in the Subject.

English-speaking students of the history of education will find that almost everything they want has been provided for them in the publications of the American ex-Minister of Instruction whom I have already quoted—Henry Barnard. To these, and to the works of German and French authors, I shall have occasion to refer you; and you will profit by these references if I can but get you to take an interest in the subject. *There* is the grand requisite for all intellectual exertion—interest in the subject. I spoke just now of *examination*-knowledge; and knowledge acquired without interest is mere examination-knowledge—taken into the mind as one's clothes are packed into a portmanteau for a journey. Mr. Gladstone, who has used this simile, wittily says that the portmanteau is none the better for what you put into it, and may be the worse. Do not then pack for the examination; seek rather to gain in the study of your future calling interests which may last your lifetime.

Prof. Quick republishes the following announcement of the Syndicate in the Preface to his Lecture:

Examinations of Teachers in 1880.

1. An Examination in the Theory, History, and Practice of Teaching will be held at Cambridge, and at other places if so determined by the Syndicate, in June, 1880, for persons who have completed the age of 20 before June 1, 1880, and certificates will be awarded to those who have passed the Examination satisfactorily.

2. No Candidate can be admitted to the Examination unless he or she have either

1. Graduated in some University of the United Kingdom, or L.A. of St. Andrews; or
 2. Satisfied the Examiners in Part I and II of the Previous Examination; or
 3. Obtained a certificate in one of the Higher Local Examinations of the Universities of Oxford or Cambridge; or
 4. Obtained a certificate of the Oxford and Cambridge Schools Examination Board in the subjects accepted by the University as equivalent to Parts I and II of the Previous Examination; or
 5. Satisfied the Examiners in one of the Senior Local Examinations of the Universities of Oxford, Cambridge, or Durham, in English, and at least one language ancient or modern, and in Euclid or Algebra; or
 6. Passed the Examination for Matriculation at the University of London.
3. The subjects of Examination will be:
- (1) The Theory of Education.
 - (a) The scientific basis of the art of Education.
 - Characteristics of childhood and youth. Order of develop-

opment and laws of growth and operation of mental faculties. Natural order of the acquisition of knowledge. Development of the will: formation of habits and of character. Sympathy and its effects.

(b) Elements of the Art of Education.

Training of the senses, the memory, the imagination and taste, the powers of judging and reasoning. Training of the desires and of the will. Discipline and authority. Emulation, its uses and abuse. Rewards and punishments.

(2) The general history of Education in Europe since the revival of learning. A general knowledge will be required of systems of education which have actually existed, of the work of eminent teachers, and of the theories of writers on education up to the present time.

The following special subjects have been selected for 1880: Locke's Theory of Education, and the Educational Work of Arnold.

(3) The Practice of Education. This subject will consist of two parts:

(a) Method, that is, the order and correlation of studies, oral teaching and exposition, the right use of text-books and note-books, the art of examining and questioning, and the best methods of teaching the various subjects which are included in the curriculum of an ordinary school.

(b) School management. The structure, furniture, and fitting of school-rooms, books, and apparatus, visible and tangible illustrations, classification, distribution of time, registration of attendance and progress, hygiene, with special reference to the material arrangements of the school, and the conditions of healthy study.

One paper will be set on each of the subjects (1), (2), (3). A fourth paper will be set containing a small number of questions of an advanced character on each of the three subjects.

A fee of £2 10s. shall be paid to the Syndicate by each candidate.

4. The Syndicate will further award certificates of practical efficiency in teaching to candidates who have already obtained a certificate of theoretical efficiency, and have been engaged in school work for a year in some school or schools to be approved of by the Syndicate. The bases for the certificate of practical efficiency will be:

- (1) Examination of the class taught by the candidates.
- (2) An inspection of the class while being taught.
- (3) Questions put to the teacher in private after the inspection.
- (4) A Report made by the Head Master or Mistress.

5. The Syndicate will also be ready to inspect in the summer of 1880 any College established for the training of teachers other than elementary, and to award certificates of theoretical knowledge to such candidates as may deserve them. They will also award certificates of practical efficiency if they are satisfied with the training in practical work received by the candidates.

Communications are to be addressed to the Secretary of the Syndicate, Mr. Oscar Browning, King's College, Cambridge, who will be happy to afford any further information.

Students of the History of Education who cannot read German will do well to get Henry Barnard's *German Teachers and Educators* (English Publisher, Thomas Laurie, Stationers' Hall Court, London, E.C., price 12s.). In German the great works are Karl von Raumer's, and Karl Schmidt's. The French have now a very interesting work, M. Gabriel Compayré's *Histoire Critique des Doctrines de l'Education* (2 vols. Hachette, 1879, price 15 francs). I wish there were any works of English origin worthy to be mentioned with these.

R. H. QUICK.

TRINITY COLL., CAMBRIDGE, Nov. 11, 1879.

FEMALE EDUCATION IN PENNSYLVANIA.

PERIOD I.—TO 1800.

EARLY EMIGRANTS AND SCHOOLS FOR GIRLS.

Of the education of the girls and women generally among the pioneer settlers of Pennsylvania we cannot speak very much in detail, for want of authentic information; but in the Moravian settlements we find a conservative and elevating influence, which made itself felt far beyond the limits of the Moravian church, and entitles Pennsylvania to the credit of having the first regularly-organized school for girls, and the first incorporated academy for young ladies in the United States. For the origin and development of these we have ample documentary material, from which we compile our sketch.*

Moravian Settlement and Church.

The American Moravian church is an integral part of the Moravian Unity, whose organic center is at Herrnhut, Saxony, where, in 1727, the ancient protestant Unity of the Moravian and Bohemian Brethren [followers of John Huss] was resuscitated among a handful of spiritual descendants of those early confessors of evangelical truth, who left their ancestral seats in search of religious toleration. The Renewed Church of the United Brethren, or the Moravian church of the present day, dates, therefore, from the year 1727. Before the expiration of the first decade of its existence, this church of refugees was firmly established at different points on the Continent and in Great Britain, and, through its missionaries, was preaching the Gospel to the Greenlanders, the North American Indians, the negro slaves of the West Indies and Surinam, and the Hottentots of Southern Africa.

The American Moravian church constitutes one of the three provinces into which the Unity is at present divided, and embraces within its ecclesiastical limits a church North and a church South, with Bethlehem, Penna., and Salem, N. C., respectively, for their seats of government. The churches of Great Britain and Ireland constitute the British Province, and those of Germany, Holland, and Russia the Continental, with their seats of government respectively at London and Herrnhut. These provinces are united into one church, on the basis of a common historic descent, a common faith, and the prosecution in common of the work of foreign missions. Touching matters of constitution and government in their respective domains, however, and touching the enterprises in which they have engaged, whether the cause of home missions, education,† or local charities, each is an independent organization. The frame of government adopted by both provinces and Unity is strictly representative. A provincial synod legislates for the province, and in a provincial board

* Catalogue and Historical Sketch of Moravian Seminary for Young Ladies at Bethlehem, Penn., 1875-76, and Catalogue for 1883-4.

† There are twenty-five boarding-schools, conducted in the interests of the Continental Province,—ten for boys and fifteen for girls. Those at Lausanne and Montmirail, Switzerland, and at Montauban, Province of Guienne, France, are most favorably and widely known. The British Province has fifteen,—seven for boys and eight for girls.

is vested the executive power. A general synod, convened as occasion may require, at Herrnhut, legislates for the Unity, and in a Unity's board is vested the executive power.

The Moravians in Pennsylvania.

The Moravians effected their first permanent settlement in the British Provinces of North America, at Bethlehem, Penna., in 1741, after an unsuccessful attempt to colonize in Georgia. Encouraged in their enterprises in this direction by the British government, which by act of Parliament,* granted them special privileges within its colonial possessions, they resolved to plant their church within its jurisdiction in the New World, with the Province of Pennsylvania for the center of its operations, and a mission among the Indians as one of its principal objects. To this end, the heads of the church purchased land in that province—eventually becoming the proprietors of 10,000 acres in two parcels, lying within the limits of the present Northampton county—and in the interval between 1742 and 1762 annually forwarded colonists from abroad, some of whom were settled at points on these estates, and others, subsequent to 1752, on a great tract of 100,000 acres in Western North Carolina. Bethlehem, as has been stated, was begun to be built in 1741, and immediately became the seat of the board of general control, at the head of which stood the senior bishop. It was the only settlement made on the lower Moravian tract in the Forks of Delaware. On the upper tract, six distinct improvements were made within the first ten years of its occupation, and in 1771 the town (now the borough) of Nazareth was laid out.

The Moravian Economy.

For upwards of twenty years after entering Pennsylvania, the Moravians in that province constituted one body politic, being united in an economy. Coöperative as was this feature in their system of colonization, it differed materially from the communistic movements of a later day, in as far as aggrandizement in things temporal, either for the individual or for the corporation, was utterly foreign to its design and spirit. Its sole aim was the support of a Gospel ministry and the maintenance of foreign and domestic missions. It was for this that the mother-church ventured of her limited means in the purchase of real estate and in the transportation of colonists; and to aid her in her efforts to extend Christ's kingdom, those colonists now voluntarily entered into an agreement to live and labor as members of one family. The surrender of personal property into a common treasury was no requirement for admission into this economy. Its members contributed merely their individual labor for the common good, whether as artisans or husbandmen, and in return were supplied with the necessities of life. The mutual obligation ended here. In this way the farms, mills, and workshops which had been cleared or erected at different points, were made to do service in the interests of the work which the church had taken in hand, the revenues accruing from them aiding materially in the support of a flourishing mission among the Delaware and Mohican Indians, a stated ministry, and a corps of evangelists who preached the Gospel in the rural districts of the province. The period of greatest activity in the history of the American branch of the Moravian Unity of the last century falls within the times of its economy. It was only when the spirit which had animated its founders began to decline that it ceased to be efficacious as an auxiliary, and then it was dissolved. This came to pass in the spring of 1762.

* Entitled "An Act for encouraging the people known by the name of *Unitas Fratrum*, or United Brethren, to settle in his Majesty's Colonies in America," being an Act of the twenty-second year of George II. This Act was secured through the personal influence of Count Zinzendorf, of whom, during his residence in Chelsea, 1749-54, Rev. A. G. L'Es-trange gives an interesting account in his *Chronicles of Chelsea*.

*Moravian Boarding-Schools.**

The first Moravian boarding schools in this country were the institutions in which the children of the Moravian economy were educated. As the parents of these children, by reason of the responsibilities they assumed, were incapacitated from providing for their offspring, the education and maintenance of the latter devolved entirely upon the church. The sons and daughters of both laymen and clergymen were accordingly placed at schools, at Bethlehem and Nazareth, whose government, domestic arrangement, and routine-life closely resembled those of the family, and which, in fact, were designed as far as possible to compensate the pupils for the loss of home. *Parental discipline, thorough instruction in useful knowledge, and scrupulous attention to religious culture,* were characteristics of these early Moravian schools. With the dissolution of the economy, which was followed by important changes in the polity of the Moravian settlements, these institutions were closed, and thereafter the church provided merely for the education of the sons and daughters of its clergymen and missionaries, in day or boarding schools.

The first boarding-school for girls in this country, under the auspices of the Moravians, was opened in Germantown in the spring of 1742. It was in charge of Benigna, the daughter of Count Zinzendorf, who accompanied her father to the new world. Others were subsequently established in the German districts of the then counties of Bucks and Berks. These were conducted in the interests of the Church Domestic Mission.

School and Seminary at Bethlehem.

Bethlehem was begun to be built in the spring of 1741 on a tract of 500 acres of land, situated at the confluence of the Menakasy Creek and the Lehigh or West Branch of Delaware, with the limits of what was then Bucks County. Its founder was Bishop David Nitschmann, a native of Zauchtenthal, Moravia, and the handful of men, who, under him, felled the first trees and blocked up the first house, were some of the colonists whom the church had settled in Georgia in 1735. In December of 1741, immediately upon his arrival in the country, Count Zinzendorf visited the place, and gave it the name it bears to the present day.

Between 1744 and 1762, Bethlehem was the home of Bishop Augustus G. Spangenberg, who, with his assistants, Bishop J. Frederic Cammerhoff and Bishop Peter Boehler (some time the intimate friend of the Wesley brothers), administered the secular and spiritual concerns of the Moravian economy, and also directed the church's twofold work of foreign and domestic missions in the new world. In this interesting period of its history fell the so-called French and Indian war; and when, subsequent to Braddock's defeat, the enemy invaded the eastern portion of the province, devastating with torch and tomahawk, the secluded Moravian town was, on several occasions, literally a frontier-post, and almost in a state of siege. At exposed points it was stockaded, and into its large houses there now crowded hundreds of panic-stricken fugitives from the surrounding county. It had become a bulwark of the borders.

Its Revolutionary experiences were no less exciting; and although its inhabitants, as a people, scrupled to bear arms, and may not be reckoned among the patriots of the camp, nevertheless they contributed freely of their substance to the common cause, and ministered twice in the course of the great struggle to hundreds of sick and wounded of the Continental army. Such was the case for the first time, when, in December 1776, following the success of the British arms on Long Island, the removal of

* The Seminary for Young Ladies at Bethlehem; Nazareth Hall, a Boarding-School for Boys, at Nazareth, Northampton Co., Penn., founded in 1785; Linden Hall, a Boarding-School for Young Ladies, at Lititz, Lancaster Co., Penn., founded in 1704; and the Hope Academy for Young Ladies, at Hope, Bartholomew Co., Indiana, founded in 1866, are under the supervision of the Executive Board of the Province North. The Academy for Young Ladies at Salem, Forsyth Co., North Carolina, founded in 1802, is controlled by the Board of the Province South.

the General Hospital from Morristown to points in the interior, became an imperative necessity. Bethlehem then received for its quota upwards of eight hundred of the two thousand in hospital. One hundred and ten of these lie buried on the borders of the present borough.

With the beginning of September of 1777 opened the most eventful period in the Revolutionary history of Bethlehem. On the 11th of September was fought the battle of Brandywine or Chad's Ford, at which point Washington had made an unsuccessful stand for the defence of Philadelphia. Following this disaster and Howe's movement upon the then federal city, the military stores of the army of the North were hurried inland from French Creek, and by the 23d of the aforementioned month, upwards of nine hundred army wagons were in camp on the outskirts of Bethlehem.

On the 19th of September, Dr. Jackson of the Hospital brought the following order from Trenton, addressed to the Rev. John Ettwein:

SIR: It gives me great pain to be obliged, by order of Congress, to send my sick and wounded soldiers to your peaceable village; but so it is. We will want room for two thousand at Bethlehem, Easton, and Northampton, and you may expect them on Saturday or Sunday. These are dreadful times. I am truly concerned for your society, and wish sincerely this stroke could be averted; but it is impossible.

WILLIAM SHIPPEN.

"On Saturday, the 20th September, 1777," writes a chronicler of those stirring times, "we began to realize the extent of the panic that had stricken the inhabitants of the capital, as crowds of civilians, as well as men in military life, began to enter the town in the character of fugitives. Next day their number increased, and toward evening the first installment of sick and wounded arrived. Among the latter was General La Fayette and suite, General Woodford, and Colonel Armstrong. Congress, too, was largely represented by some of its most influential members, such as John Hancock, Samuel Adams, Henry Laurens, and Charles Thomson."

In the afternoon of the 15th of July, 1782, Washington, accompanied by two of his aids, on his way to headquarters, then at Newburg, arrived at Bethlehem. On the morning of the 26th, he resumed his journey. This was Washington's only visit to Bethlehem.

The opportunity the public and men of influence in the nation thus had of studying Moravian life and character and of acquainting themselves, from personal observation, with Moravian institutions, was auspicious for a people who had long been both misunderstood and misrepresented. And thus it came to pass that the Moravians, who were recognized as conscientious educators of youth in their own commonwealth, were soon sought to do service in that capacity in a new and wider sphere. Having been repeatedly urged to engage in the cause of education outside of their own church, the General Synod of 1782 sanctioned the assumption of such a responsibility on the part of the American Executive Board, entrusting the development of the project to Bishop John de Watteville, who was in the United States in the interval between 1784 and 1787. Accordingly, on the 2d of October, 1785, the then existing school for girls at Bethlehem (it had been established in January of 1749), having been reorganized and remodeled, *was opened in the interest of the American public as a boarding-school for girls, under the auspices of the Moravian church.* Such was the origin of the Moravian seminary for young ladies at Bethlehem, which has now been in successful operation for ninety-nine years. For that period of time the names of upwards of SEVEN THOUSAND pupils have been enrolled upon its register.

The romantic story of Count Pulaski — his struggle for Polish independence and defeat at home, his outlawry and confiscated estate, his gallant service in the battles on the Brandywine, and in Germantown, made his visit to Lafayette, a wounded officer in Bethlehem, memorable to the Moravian sisters — the unmarried women, young and old, sometimes called nuns, although not living under vows of celibacy, and quite reconciled if Providence and the commissary open the way to the holy bands of matrimony, where they ever prove excellent housewives and devoted

mothers. When it was known, writes Lossing, in his *Field Book of the Revolution*, that the Count was authorized, in 1778, to raise and command an independent corps of cavalry, the sisters prepared a banner of crimson silk, with designs beautifully wrought with the needle by their own hands, and sent it, with their blessing, to Pulaski,* an act which Longfellow has embalmed in the

Moravian Hymn on Consecration of Pulaski's Banner.

When the dying flame of day
Through the chancel shot its ray,
Far the glimmering tapers shed
Faint light on the cowed head;
And the censer, burning, swung,
Where, before the altar, hung
The blood-red banner, that, with prayer,
Had been consecrated there.
And the nun's sweet hymn was heard the while,
Sung low in the dim, mysterious aisle:

"Take thy banner! May it wave
Proudly o'er the good and brave;
When the battle's distant wail
Breaks the sabbath of our vale,
When the clarion's music thrills
To the hearts of these lone hills,
When the spear in conflict shakes,
And the strong lance, shivering, breaks.

"Take thy banner! But when night
Closes round the ghastly fight,
If the vanquished warrior bow,
Spare him!—By our holy vow,
By our prayers and many tears,
By the mercy that endears,
Spare him!—he our love hath shared!
Spare him!—as thou wouldst be spared!

"Take thy banner! and beneath
The battle-cloud's encircling wreath,
Guard it!—till our homes are free!
Guard it!—God will prosper thee!
In the dark and trying hour,
In the breaking-forth of power,
In the rush of steeds and men,
His right hand will shield thee then.

"Take thy banner!—and if e'er
Thou shouldst press the soldier's bier,
And the muffled drum should beat
To the tread of mournful feet,
Then this crimson flag shall be
Martial cloak and shroud for thee."

The warrior took that banner proud,
And it was his martial cloak and shroud!

This hymn, embodying, no doubt, the spirit which inspired the preparation and presentation of the Pulaski banner, has carried the name and the fame of the Moravian Sisters of 1778 into regions and families, which their century of faithful service in the work of female education would, otherwise, have never reached, besides converting their plain meeting-house and simple devotions and communion-table of cheapest material and workmanship into cathedral dimensions, with swinging censer, and the dim religious light of waxen tapers streaming down the long drawn aisles and over consecrated altars. The poet can *create surroundings*, as well as preserve the brave and patriotic in thought and deed.

* *Count Casimer Pulaski* was born in Lithuania, Poland, March 7, 1747. He entered heartily into the war for the liberation of his country, inaugurated in 1768 by the Confederation of Nobles, of which his father was the chief organizer. After its failure, outlawry and confiscation of his family estates, and service for a time in the Turkish army against Russia, he came to this country, with letters from Franklin to Gen. Washington. He served as volunteer at the battle on the Brandywine, and at Germantown, distinguished himself at the head of the Pulaski Legion in South Carolina and Georgia, and particularly in the assaults on the British forces, both within and without the earthworks of Savannah. He fell, and died on the steamer *Wasp*, but his banner was rescued, and, after being carried in the procession which welcomed Lafayette to Baltimore in 1824, is now in the keeping of the Maryland Historical Society. Lossing gives cuts of it.

How the Moravians proposed to conduct their new Seminary, and what they promised to do in things temporal and spiritual for the welfare of the young persons entrusted to their care is inferable from the following Code of Rules, that were devised for the government of the household:

Code of Rules and Terms in October, 1788.

For the maintenance of order in schools conducted similarly to ours, it is indispensable to adopt definite rules and regulations, the observance of which conduces to the happiness and comfort of individuals and the community. If ever our school is to prove beneficial to its members, and through them to society, our daughters must endeavor to comply cheerfully, and at all times, with these few and wholesome requirements, as such compliance will lead to habits of order and general proper deportment.

When the bell rings at half-past five in the morning, all are expected to rise, and in silence await the word from the tutoress who is on duty for the day, to proceed to their dwelling-rooms.

At six o'clock the bell rings for breakfast. Quiet and strict order should be observed in going to and returning from the dining-hall in company with the tutoress. At table a hymn is sung and the text for the day read; and it is expected that you all join, with cheerful hearts and voices, in thus praising your Lord, both before and after meals.

As we have no servants to wait on our children, and we deem it well for young persons to learn to wait on themselves, one of our daughters from each room is appointed daily to sweep the room, dust the tables, and see to the proper disposition of the desks and chairs. After breakfast, each pupil attends in person to making her bed, and the different companies repair to their respective dormitories in company with their tutoress.

At eight o'clock the bell rings for school, and it is expected that the pupils have in readiness betimes what they need for recitation, that they repair quietly to their classes, take their allotted seats, and, rather than indulge in noise and idle talk, silently implore God's blessing and aid, so that they may engage with pleasure and profit in the duties before them. A proper and erect posture, as highly conducive to health, should be carefully observed when seated at the desk, or otherwise occupied.

When the bell summons to "children's meeting," our daughters should repair in silence to the chapel, two and two, in their respective divisions, attended by their tutoresses. No child is at liberty to excuse herself from attendance on this service. It would be a sad thing, indeed, if any of your number would not cheerfully devote a short half-hour to the praise and worship of her Redeemer. It is almost needless to add that boisterous deportment in returning from the house of God is improper.

In going to dinner, at a quarter of twelve, due order is likewise to be observed. At table, everything should be done with decorum. If there is anything needed, let one at a time make known her wants; otherwise, those of your number who serve at table will be needlessly disturbed. It is unbecoming in young misses at boarding-school to murmur at the food that is set before them, and to treat the gifts of God with disrespect. Whatever is not agreeable, let it remain untouched, without expression of dissatisfaction.

The time after dinner till one o'clock is allotted you for amusement and recreation. Whatever is needed for the afternoon classes should be gotten in readiness in this interval.

The hours from one to four are for recitations and classes, which you are expected to attend punctually, confining yourselves as much as possible to your respective rooms, and avoiding needless walking and visiting to and fro in the house. After school, your tutoresses will always do you the pleasure of accompanying you to walk, on which occasion you should leave the premises quietly, and, while in the streets, manifest, by your whole deportment, respect for the quiet of the place, whereby you will win the esteem of the residents, and do credit to those who are concerned in your training.

And, finally, I hope all our daughters regularly engage in evening devotions before retiring for the day, and, after these, in composed and serious frame of mind, commit themselves to the safe-keeping of God.

For Board, Washing, and Tuition, the latter including the ordinary branches of an English education and instruction in the German language, per Quarter, - - - - -

For Board, Washing, and Tuition, the latter including the ordinary branches of an English education and instruction in the German language, per Quarter, - - - - -	£5 —. —.
For Tambour-work and Drawing, per Quarter, - - - - -	17. 6.
For lessons on the Piano Forte or Guitar, per Quarter, - - - - -	17. 6.
For the use of Light, Fuel, and School-books, per Quarter, - - - - -	15. —.

The following "Conditions" were issued by Rev. Jacob Van Vleck on becoming Principal of the Seminary, in 1790. The prospects of attendance from abroad were such as to justify the erection of a more commodious building, which was begun in 1790, and occupied on the 12th of April, 1790, with a registered attendance of 88 under the care of ten tutoresses.

Conditions of the Boarding-school in Bethlehem for the Education of Young Misses.

Children are admitted between the ages of eight and twelve years, and may remain at school, if the parents desire, to the age of sixteen, unless their deportment should be such as not to admit of their longer continuance. Every possible attention will be paid to the health and morals of the children. On admittance, one guinea entrance-money is to be paid.

The price of boarding and common schooling is £20, Pennsylvania currency, per year, payment to be made at entrance quarterly, in advance, and so continued.

Under common schooling are comprised Reading, Writing, Grammar, History, Geography, Arithmetic, plain Sewing, and Knitting.

For instruction in Music, if desired, two guineas per year is charged.

For instruction in fine Needlework, including Drawing, also two guineas per year.

Clothing, medicine, books, paper, and other contingent expenses, are a separate charge, and are to be settled quarterly. In bedding they may be found for twenty shillings per year. The dress is to be decent, avoiding excess and vanity.

It is desired that such as are applied for should have had the measles and small-pox.

Application, informing him of the age and character of the child, to be made in writing to the

REV. JACOB VAN VLECK.

P S.—As many parents and guardians have signified their desire that their children might also be taught the French language, we have now the pleasure to inform them that a lady, well versed in this language, has arrived from Europe, with the intention to give lessons in the same. As the maintenance of said lady, as well as the expenses of her voyage and journey from Europe, will fall upon the school, we trust it will not be deemed unreasonable that an extra charge of five Spanish dollars per annum should be made for instruction in French.

Three hundred and sixty-five pupils were admitted into the institution during this prosperous administration. In June of 1796, Mrs. Thomas Lee, of Park Gate, near Dumfries, Virginia, niece to President Washington, on his recommendation, applied for the admission of her daughter. Referring to the register of this period, we find on record the well-known names of Sumpter, Huger, Alston, Bayard, Elmendorf, Heister, Morton, Addison, Butler, Reddick, Coleman, Sergeant, Bleecker, Lansing, Livingston, Vanderheyden, Rosevelt, etc.

Domestic Arrangement.

The students and teachers of the seminary constitute one household, at the head of which stand the principal and his wife.

The whole number of students is divided, without reference to scholarship, and mainly according to age and congeniality, into smaller *families*, over each of which two tutoresses preside. Of these families there are at present five, consisting of from fifteen to twenty young ladies each. The members of each family *room* together. That is, they have a common sitting-room, and several additional apartments, for their use, a common dormitory and lavatory, they eat at the same table in the general dining-room, and look up to the same teachers for direction and advice. For purposes of counsel and control, one of the teachers is with them at all hours, to superintend their studies, to preserve order, to accompany them on their daily walks, to meals, and to church and chapel. Both teachers sleep in the same dormitory with the pupils of their charge.

Besides the Seminary for Young Ladies at Bethlehem, in the Lehigh Valley, founded in 1749, and reorganized in 1785, there is another in Pennsylvania which has, from 1794, received pupils from families out of the Moravian church.

LINDEN HALL AT LITITZ.

A school for girls was founded at Lititz, in Lancaster county, Pennsylvania, in 1758, by Rev. Bernhard Grube, of the Moravian church. It was erected into a Seminary for young ladies, from within and without the Moravian fraternity, in 1794, and since that date has been known as Linden Hall Seminary. Under the careful supervision and instruction of a succession of able principals, more than 5,000 young women have been well trained, and gone out into the homes of the country.

The institution has not been conducted for the pecuniary profit of the principal, but is the property of the Synod of the Northern Province of the Moravian church, and its domestic life is a pleasant, healthy, and retired village of eight hundred inhabitants, and its thorough and not over-crowded course of instruction is not confined to girls from Moravian homes, but is open to all of differing religious beliefs. It was incorporated by the Legislature in 1868.

Domestic Arrangements.

The pupils and teachers of the seminary constitute one household, at the head of which stand the principal and his wife. The pupils are divided, mainly according to age, into smaller families, or "rooms," numbering usually about thirteen, over each of which two teachers preside. For purposes of companionship, assistance, and control, one of these teachers is always present in the room, and she accompanies her charge on their daily walks, to meals, and to chapel and church. The teachers sleep in the same dormitory with their pupils.

Subjects and Methods of Instruction.

The classes are small, and the supervision and guidance extends to the individual scholar, so as to reach the special needs of each. The aim and scope of each lesson are fully explained in advance, and ample time is given to master the same in advance of class recitation, in the study-room, a teacher being present and assisting, if need be. Dictionaries and other books of reference are accessible, and pupils, in subjects that admit of it, are required to look up information, and present it in writing. "General information," chorus singing, calisthenics, and plain sewing are included in the studies of younger classes, and the graduating class must pass examination in the following:

English (Composition, History of the English Language and Literature, and the critical study of several authors), *Physical Geography*, *Elementary Botany*, *Chemistry*, *Natural Philosophy*, *Arithmetic*, *Algebra* (through quadratic equations), *Plane Geometry*, *History* (outlines of Universal History; History of England and of the United States, in detail), *Rhetoric*, *Elementary Moral Science*, and a Course of Private Reading of Standard English Authors.

Count Zinzendorf, b. 1700—d. 1760.

Nikolaus Ludwig Zinzendorf, Count, a bishop of the Moravian church, was born in Dresden May 26, 1700, and died at Herrnhut, May 9, 1760. His early training was conducted by the Baroness Gersdorf, a convert and disciple of Spener, who was his godfather, and, after the age of ten, in the Paedagogium of Francke, and the University of Wittemberg after 1716. From Spener and Francke he imbibed his spiritual enthusiasm and missionary views, which inspired all his after life. In 1719 he traveled in Holland and France, and printed an account of his travels in *Pilgrimage of Atticus through the World*. In 1722, he married the Countess Reuss von Ebersford, and, in the same year, gave shelter, on his estate of Berthersdorf, in Upper Lusatia, to a few Moravian families, who were refugees from persecution in Bohemia, and who rapidly increased in number, until they were organized by the Count into a community at Herrnhut. Accepting the views of Francke, he passed a theological examination, under an assumed name at Stralsund, and was ordained at Tübingen in 1734. In 1736, he was banished from Saxony as an innovator. In 1739, he published a catechism, entitled *The Good Word of the Lord*, and the same year visited the islands of St. Thomas and St. Cruz, where the brethren had established missions. In 1741, accompanied by his youngest daughter, Benigna, he preached in Germantown and Bethlehem, and, in 1742, ordained the missionaries Rauch and Rüttner, and at Shekomeco established the first Indian Moravian congregation in America. He returned to Europe in 1743, visiting Livonia, Holland, and England, residing while in England at Chelsea, where he occupied the Lindsey House, which he purchased in 1750, to constitute a Moravian center; and in this connection purchased part of the gardens of Beaufort House for a graveyard, where the first interment was his adopted daughter, Maria Theresa Stonehouse, in 1751, and, in 1752, his son Christian Renatus. Rev. A. G. D'Estrange, in his *Chronicles of Chelsea*, devotes a chapter to Lindsey House, from which we extract:

Count Zinzendorf awakens our sympathies in a greater degree, and seems to exist in a clearer atmosphere than any one to whom we have referred. His actions were guided by higher motives, and his aspirations were purer. Eternal sunshine seems to settle on his head. From a child his eyes had been directed upwards; and he had also the gift of eloquence and high intellectual endowments. He used to fancy, in these early years, that he was holding conversations with our Lord, to whom he would sometimes write letters, and throw them out of the window, to be borne to their destination. At other times, he would assemble the household together, and preach to them; and, if he could find no better congregation, would range the chairs before him, and deliver to them religious exhortations. Thus early his energy and devotion became conspicuous. . . .

At the University of Halle, he collected around him a little brotherhood of sympathizers, who bound themselves to follow, as far as possible, the doctrines of Christ, and especially to devote themselves to the conversion of the heathen. Out of these men he instituted a sort of spiritual knighthood, the members of which called themselves the "Slaves of Virtue," "The Confessors of Christ," and finally

the "Order of the Grain of Mustard Seed." They wore a medal and ring, and the chief a cross, in the center of which was a mustard-plant grown into a tree.

Zinzendorf was not only a poet, but a man of learning. He understood Greek and Hebrew, and could speak Latin fluently; but his favorite language was French, in which he generally wrote. During his visit to Holland he acquired English. We may justly regard him as the great representative of Catholicity, for the chief aim of his life was to unite together in Christ all churches, whether Protestant or Romanist. . . .

Zinzendorf by degrees came to be so well known, that, in the natural course of things, he had many enemies, and owing to some disorder occasioned by a colony which had not been under his patronage, but under that of his aunt, sentence of banishment was pronounced against him. His wife, however, continued to live in Saxony, and to attend to the interests of the Moravian settlement, while he, like the Apostles in time of persecution, went everywhere preaching the Word. At Berlin he threw open his spacious rooms to an eager congregation, the crowd being so great that a large garret had to be made available. He had already been consecrated a bishop, and speaking of his addresses at this time, says:

"My preparation is the wretchedness and poverty I feel during the hour before I speak; this sometimes reaches such a point that, when I am going up to the garret, I hardly know where I am; but the moment I begin, I feel the coals from the altar. . . . I have never before spoken with such freedom as I do here. My hearers often shed tears, and even the soldiers weep with the rest."

To place matters on a better footing in this country, Zinzendorf came over here in 1747, and obtained in 1749 a recognition by Parliament of the community of Brethren, to be called "Unitas Fratrum." Those of its members who had scruples about taking oaths or serving in the army, were to be exempted from such requirements. He was brought into communication here with the leading men of the time, and purchased from Lord Granville one hundred thousand acres of land for a colony in North Carolina.

This settlement [in England], which was to be called Sharon, did not succeed; but Lindsey House was occupied by Count Zinzendorf, who made it a center for the Moravian community in England. Here conferences were held with the representatives of the English and German fraternities, a printing-press was established and constantly employed, and at an English Synod held here in 1754, John Gambold, the minister of the brethren's church in London, was consecrated a bishop. The brethren who inhabited this house were mostly missionaries, for whom it was intended that this should be a kind of "pilgrim-house," and temporary home. The mansion, with its great number of rooms and large halls for meetings, was admirably chosen for this purpose, and the wainscoting of the grand staircase was adorned by Haidt, a German artist, with portraits and scenes from Moravian history. These designs are preserved at the Mis-House, in Fetter Lane, as well as the old chairs, with their low, broad seats, carved backs, and claw feet. Here, round the walls, hang the portraits of venerable bishops of the fraternity; and there is a picture of the well-known George Smith, teaching the natives of the Cape the use of the spade. The full-length of a small boyish-looking man is the likeness of the first convert in Greenland, and the two negroes are the first fruits of labors in the island of St. Thomas. Not less interesting are the portraits of the Count himself—here we see him at a meeting of American Indians—a young man of commanding mien and stature, closely shaven, with fair, sunny curls round his forehead, and attired in a long, light blue coat. In another picture, he is surrounded by savages with drawn knives, and has a serpent twining round his neck, referring, no doubt, to some position of peril in his history. In this house is a collection of text-books, containing portions of Scripture for every day in the year—the idea originated with the Count—which have been published annually for 150 years.

Boarding School in 1767.

The earliest schools in Philadelphia of which we have any record were for boys exclusively, and yet we find here one of the earliest Boarding-Schools for Young Ladies, and the earliest institution designated and incorporated with the name of Academy,—a name, so far as we know, first given by Franklin to an institution for juvenile instruction in this country in 1749, and to him first suggested by Defoe's "Essay on Projects." In the following appeal to the ladies of Pennsylvania, as printed in Shippen's Address on the Dedication of the Hollingsworth School in 1867, we get the prospectus of a Boarding-School in 1767:

"Ladies, it is by many judicious Persons observed, and remarked as a Matter of Surprise, that in so great and populous a City as *Philadelphia*, where every public Institution for the Benefit of Mankind, has met with a ready Encouragement; a proper Seminary or Boarding School for the Education of young Ladies should be wanting. The Advantages resulting from such an Establishment are obvious on the slightest Reflection, and too numerous to be inserted within the Limits of this Address: Thus much may be said, (admitting a Persons duly qualified to undertake the Charge) that it must yield a secret Pleasure and Satisfaction to the Breast of every tender Parent, to know that the Behaviour and Conduct of children are under the Inspection of a Prudent Woman; and that they are fixt there, where, without the Disadvantage and Fatigue of traversing the Streets to different Schools, whereby their Attention to Learning must be greatly interrupted and hindered, not only the more necessary, but also the more polite Parts of Education may be attained—And now, Ladies, fully sensible of the greatness of the Task, and in an humble Sense of my many Deficiencies, relying on your Candour and Goodness, I venture to inform you, that on the 15th day of *May* will be opened a Boarding School for the Education of young Ladies, in *Market Street*, three doors above the corner of *Sixth Street*, on the right Hand going up—Those Ladies inclining to forward this useful undertaking may know the Terms, examine the Plan and Regulations proposed, and depend on a faithful discharge of the Trust reposed in,

"LADIES, Your Most humble Servant,

MARY McALLESTER.

"N. B. The number proposed for Boarders are Twelve.

"*PHILADA., April 27, 1767.*"

YOUNG LADIES INCORPORATED ACADEMY.

The earliest Academy, so designated and incorporated, for young ladies in this country, was established in Philadelphia in 1784, and from 1787 was in charge of Rev. John Poor, a native of New Hampshire and graduate of Dartmouth College. The subjects taught were "Reading, Arithmetic, Grammar, History, Geography, with use of globes and maps, Rhetoric, and Vocal Music." Dr. Franklin,* in 1764, urges his daughter Sarah (Mrs. Bache), in her private studies, to acquire "arithmetic and book-keeping;" and Mr. Jefferson,* in a letter to Martha (Mrs. Randolph), then under the instruction of Mrs. Hopkinson in Philadelphia, to give her whole time to reading English and French, music, drawing, dancing, and letter-writing.

* See American Journal of Education, Vol. xxvii, pages 550 and 733.

In 1787, Dr. Rush, in a public address to the Visitors of the Young Ladies' Academy in Philadelphia, submitted his "views of the requirements of female education accommodated to the present state of society, manners, and government in the United States," which we here reproduce as the standard aimed at by the first institution for girls incorporated under the name of an Academy, in this country.

Thoughts on Female Education in 1787.

The branches of literature most essential for a young lady in this country appear to be:

1. A knowledge of the English language. She should not only read, but speak and spell it correctly. And to enable her to do this, she should be taught the English grammar, and be frequently examined in applying its rules in common conversation.

2. Pleasure and interest conspire to make the writing of a fair and legible hand a necessary branch of a lady's education. For this purpose, she should be taught not only to shape every letter properly, but to pay the strictest regard to points and capitals.

I once heard of a man who professed to discover the tempers and dispositions of persons by looking at their handwriting. Without inquiring into the probability of this story, I shall only remark, that there is one thing in which all mankind agree upon this subject, and that is in considering writing that is blotted, crooked, or illegible, as a mark of vulgar education. I know of few things more rude or illiberal than to intrude a letter upon a person of rank or business which cannot be easily read. Peculiar care should be taken to avoid every kind of ambiguity and affectation in writing *names*. I have now a letter in my possession upon business, from a gentleman of a liberal profession in a neighboring State, which I am unable to answer because I cannot discover the name which is subscribed to it. For obvious reasons, I would recommend the writing of the first, or Christian name, at full length, where it does not consist of more than two syllables. Abbreviations of all kind in letter-writing, which always denote either haste or carelessness, should likewise be avoided. I have only to add, under this head, that the Italian and inverted hands, which are read with difficulty, are by no means accommodated to the active state of business in America, or to the simplicity of the citizens of a republic.

3. Some knowledge of figures and book-keeping is absolutely necessary to qualify a young lady for the duties which await her in this country. There are certain occupations in which she may assist her husband with this knowledge; and should she survive him, and, agreeably to the custom of our country, be the executrix of his will, she cannot fail of deriving immense advantages from it.

4. An acquaintance with geography and some instruction with chronology will enable a young lady to read history, biography, and travels, with advantage, and thereby qualify her not only for a general intercourse with the world, but to be an agreeable companion for a sensible man. To these branches of knowledge may be added, in some instances, a general acquaintance with the first principles of astronomy, natural philosophy, and chemistry, particularly with such parts of them as are calculated to prevent superstition, by explaining the causes, or obviating the effects of natural evil, and such as are capable of being applied to domestic and culinary purposes.

5. Vocal music should never be neglected in the education of a young lady in this country. Besides preparing her to join in that part of public worship which consists in psalmody, it will enable her to soothe the cares of domestic life. The distress and vexation of a husband, the noise of a nursery, and even the sorrows that will sometimes intrude into her own bosom, may all be relieved by a song, where sound and sentiment unite

to act upon the mind. I hope it will not be thought foreign to this part of our subject to introduce a fact here which has been suggested to me by my profession, and that is, that the exercise of the organs of the breast by singing contributes very much to defend them from those diseases to which our climate and other causes have of late exposed them. Our German fellow-citizens are seldom afflicted with consumptions, nor have I ever known but one instance of spitting of blood among them. This, I believe, is in part occasioned by the strength which their lungs acquire by exercising them frequently in vocal music, for this constitutes an essential branch of their education. The music-master of our academy has furnished me with an observation still more in favor of this opinion. He informed me that he had known several instances of persons who were strongly disposed to the consumption who were restored to health by the moderate exercise of their lungs in singing.

6. Dancing is by no means an improper branch of education for an American lady. It promotes health, and renders the figure and motions of the body easy and agreeable. I anticipate the time when the resources of conversation shall be so far multiplied that the amusement of dancing shall be wholly confined to children. But, in our present state of society and knowledge, I conceive it to be an agreeable substitute for the ignoble pleasures of drinking and gaming in our assemblies of grown people.

7. The attention of our young ladies should be directed, as soon as they are prepared for it, to the reading of history, travels, poetry, and moral essays. These studies are accommodated, in a peculiar manner, to the present state of society in America, and when a relish is excited for them in early life, they subdue that passion for reading novels which so generally prevails among the fair sex. I cannot dismiss this species of writing and reading without observing that the subjects of novels are by no means accommodated to our present manners. They hold up *life*, it is true, but it is not as yet *life* in America. Our passions have not as yet "overstepped the modesty of nature," nor are they "torn to tatters," to use the expressions of the poet, by extravagant love, jealousy, ambition, or revenge. As yet the intrigues of a British novel are as foreign to our manners as the refinements of Asiatic vice. Let it not be said that the tales of distress which fill modern novels have a tendency to soften the female heart into acts of humanity. The fact is the reverse of this. The abortive sympathy which is excited by the recital of imaginary distress blunts the heart to that which is real; and hence we sometimes see instances of young ladies who weep away a whole forenoon over the criminal sorrows of a fictitious Charlotte or Werter, turning with disdain at three o'clock from the sight of a beggar, who solicits in feeble accents a small portion only of the crumbs which fall from their fathers' tables.

8. It will be necessary to collect all these branches of education with regular instruction in the Christian religion. For this purpose the principles of the different sects of Christians should be taught and explained, and our pupils should early be furnished with some of the most simple arguments in favor of the truth of Christianity.* A portion of the Bible (of late improperly banished from our schools) should be read by them every day, and such questions should be asked after reading it as are calculated to imprint upon their minds the interesting stories contained in it.

Rousseau has asserted that the great secret of education consists in "wasting the time of children profitably." There is some truth in this observation. I believe that we often impair their health and weaken their capacities by imposing studies upon them which are not proportioned to their years. But this objection does not apply to religious instruction. There are certain simple prepositions in the Christian religion which are suited, in a peculiar manner, to the infant state of reason

* Baron Haller's letters to his daughter on the truths of the Christian religion, and Dr. Beattie's "evidence of the Christian religion, briefly and plainly stated," are excellent little tracts, and well adapted for this purpose.

and moral sensibility. A clergyman of long experience in the instruction of youth informed me, that he always found children acquired religious knowledge more easily than knowledge upon other subjects, and that young girls acquired this kind of knowledge more readily than boys. The female breast is the natural soil of Christianity; and while our women are taught to believe its doctrines and obey its precepts, the wit of Voltaire and the style of Bolingbroke will never be able to destroy its influence upon our citizens.

I cannot help remarking in this place that Christianity exerts the most friendly influence upon science, as well as upon the morals and manners of mankind. Whether this be occasioned by the unity of truth and the mutual assistance which truths upon different subjects afford each other, or whether the faculties of the mind be sharpened and corrected by embracing the truths of revelation, and thereby prepared to investigate and perceive the truths upon the subjects, I will not determine, but I believe that the greatest discoveries in science have been made by Christian philosophers, and that there is the most knowledge in those countries where there is the most Christianity. If this remark be well founded, then those philosophers who rejected Christianity, and those Christians, whether parents or school-masters, who neglect the religious instruction of their children and pupils *reject* and *neglect* the most effectual means of promoting knowledge in our country.

9. If the measures that have been recommended for inspiring our pupils with a sense of religious and moral obligation be adopted, the government of them will be easy and agreeable. I shall only remark under this head that *strictness* of discipline will always render *severity* unnecessary, and that there will be the most instruction in that school where there is the most order.

I have said nothing in favor of instrumental music as a branch of female education, because I conceive it is by no means accommodated to the present state of society and manners in America. The price of musical instruments and the extravagant fees demanded by the teachers of instrumental music form but a small part of my objections to it.

To perform well upon a musical instrument requires much time and long practice. From two to four hours in a day, for three or four years, appropriated to music, are an immense deduction from that short period of time which is allowed, by the peculiar circumstances of our country, for the acquisition of the useful branches of literature that have been mentioned. How many useful ideas might be picked up in these hours from history, philosophy, poetry, and the numerous moral essays with which our language abounds, and how much more would the knowledge acquired upon these subjects add to the consequence of a lady, with her husband and with society, than the best performed pieces of music upon a harpsichord or a guitar! Of the many ladies whom we have known who have spent the most important years of their lives in learning to play upon instruments of music, how few of them do we see amuse themselves or their friends with them after they become mistresses of families! Their harpsichords serve only as sideboards for their parlors, and prove by their silence that necessity and circumstances will always prevail over fashion and false maxims of education.

Let it not be supposed from these observations that I am insensible of the charms of instrumental music, or that I wish to exclude it from the education of a lady where a musical ear irresistibly disposes to it, and affluence at the same time affords a prospect of such an exemption from the usual cares and duties of the mistress of a family as will enable her to practice it. These circumstances form an exception to the general conduct that should arise upon this subject from the present state of society and manners in America.

It is agreeable to observe how differently modern writers and the inspired author of the Proverbs describe a fine woman. The former confine their praises chiefly to personal charms and ornamental accomplish-

ments, while the latter celebrates only the virtues of a valuable mistress of a family and a useful member of society. The one is perfectly acquainted with all the fashionable languages of Europe; the other "opens her mouth with wisdom," and is perfectly acquainted with all the uses of the needle, the distaff, and the loom. The business of the one is pleasure; the pleasure of the other is business. The one is admired abroad; the other is honored and beloved at home. "Her children rise up and call her blessed, her husband also, and he praiseth her." There is no fame in the world equal to this; nor is there a note in music half so delightful as the respectful language with which a grateful son or daughter perpetuates the memory of a sensible and affectionate mother.

It should not surprise us that British customs with respect to female education have been transplanted into our American schools and families. We see marks of the same incongruity of time and place in many other things. We behold our houses accommodated to the climate of Great Britain by eastern and western directions. We behold our ladies panting in a heat of ninety degrees, under a hat and cushion which were calculated for the temperature of a British summer. We behold our citizens condemned and punished by a criminal law which was copied from a country where maturity in corruption renders public executions a part of the amusements of the nation. It is high time to awake from this servility, to study our own character, to examine the age of our country, and to adopt manners in everything, that shall be accommodated to our state of society and to the forms of our government. In particular, it is incumbent upon us to make ornamental accomplishments yield to principles and knowledge in the education of our women.

A philosopher once said, "Let me make all the ballads of a country, and I care not who makes its laws." He might with more propriety have said, let the ladies of a country be educated properly, and they will not only make and administer its laws, but form its manners and character. It would require a lively imagination to describe, or even to comprehend the happiness of a country where knowledge and virtue were generally diffused among the female sex. Our young men would then be restrained from vice by the terror of being banished from their company. The loud laugh and the malignant smile at the expense of innocence or of personal infirmities, the feats of successful mimicry, and the low-priced wit which is borrowed from a misapplication of Scripture phrases would no more be considered as recommendations to the society of the ladies. A double entendre in their presence would then exclude a gentleman forever from the company of both sexes, and probably oblige him to seek an asylum from contempt in a foreign country. The influence of female education would be still more extensive and useful in domestic life. The obligations of gentlemen to qualify themselves, by knowledge and industry, to discharge the duties of benevolence would be increased by marriage; and the patriot, the hero, and the legislator would find the sweetest reward of their toils in the approbation and applause of their wives. Children would discover the marks of maternal prudence and wisdom in every station of life; for it has been remarked that there have been few great or good men who have not been blessed with wise and prudent mothers. Cyrus was taught to revere the gods by his mother Mandane; Samuel was devoted to his prophetic office before he was born by his mother Hannah; Constantine was rescued from paganism by his mother Constantia; and Edward the Sixth inherited those great and excellent qualities which made him the delight of the age in which he lived from his mother, Lady Jane Seymour. Many other instances might be mentioned, if necessary, from ancient and modern history to establish the truth of this proposition.

I am not enthusiastical upon the subject of education. In the ordinary course of human affairs, we shall probably too soon follow the footsteps of the nations of Europe in manners and vices. The first marks we shall perceive of our declension will appear among our women. Their idle-

ness, ignorance, and profligacy will be the harbingers of our ruin. Then will the character and performance of a buffoon on the theater be the subject of more conversation and praise than the patriot or the minister of the Gospel; then will our language and pronunciation be enfeebled and corrupted by a flood of French and Italian words; then will the history of romantic amours be preferred to the pure and immortal writings of Addison, Hawkesworth, and Johnson; then will our churches be neglected, and the name of the Supreme Being never be called upon but in profane exclamations; then will our Sundays be appropriated only to feasts and concerts; and then will begin all that train of domestic and political calamities—but I forbear. The prospect is so painful that I cannot help silently imploring the great arbiter of human affairs to interpose his almighty goodness, and to deliver us from these evils, that at least one spot of the earth may be reserved as a monument of the effects of good education, in order to show, in some degree, what our species was before the fall, and what it shall be after its restoration.

DR. RUSH saw, felt, and expressed to his countrymen, the defects of the old confederation, and pointed out the remedies, and among them

Universal Education.

To conform the principles, morals, and manners of our citizens to our republican forms of government, it is absolutely necessary that knowledge of every kind should be disseminated through every part of the United States.

For this purpose, let Congress, instead of laying out a half a million of dollars in building a federal town, appropriate only a fourth of that sum in founding a Federal University. In this university, let everything connected with government, such as history, the law of nature and nations, the civil law, the municipal laws of our country, and the principles of commerce, be taught by competent professors. Let masters be employed, likewise, to teach gunnery, fortification, and everything connected with defensive and offensive war. Above all, let a professor of, what is called in the European universities, economy, be established in this federal seminary. His business should be to unfold the principles and practice of agriculture and manufactures of all kinds, and, to enable him to make his lectures more extensively useful, Congress should support a traveling correspondent for him, who should visit all the nations of Europe, and transmit to him, from time to time, all the discoveries and improvements that are made in agriculture and manufactures. To this seminary young men should be encouraged to repair, after completing their academical studies in the colleges of their respective states. The honors and offices of the United States should, after a while, be confined to persons who had imbibed federal and republican ideas in this university.

For the purpose of diffusing knowledge, as well as extending the living principle of government to every part of the United States, every State, city, county, village, and township in the Union should be tied together by means of the post-office. This is the true non-electric wire of government. It is the only means of conveying heat and light to every individual in the federal commonwealth. "Sweden lost her liberties," says the Abbe Raynal, "because her citizens were so scattered that they had no means of acting in concert with each other." It should be a constant injunction to the postmasters to convey newspapers free of all charge for postage. They are not only the vehicles of knowledge and intelligence, but the sentinels of the liberties of our country.

The above extracts are taken from an Address to the People of the United States in 1787. In this address he combats the idea that each individual State can be sovereign and independent: 'True sovereignty is in the Union of all the States—the United States.'

TEACHERS AND SCHOOLS—SIXTY YEARS AGO.

SCHOOL LIFE IN DORCHESTER AND BOSTON.

LETTER FROM MR. THOMAS CUSHING.

Boston, December 27, 1882.

DEAR DR. BARNARD, — As you were kind enough to express an interest in my random recollections of my schools and teachers of nearly sixty years ago, I can do no less than try to jot down some of them according to your request. From the age of four to ten I lived in the ancient town of Dorchester, which was then practically a long distance from Boston, there being no certain means of communication except on foot, and its original rural conditions being but very slightly modified by the proximity of the young city, which had just attained its municipal charter. I have no recollection of learning to read at any school, and think that accomplishment must have been acquired in the domestic circle, as was not uncommon in those days, when any good mother seemed capable of striking out a method for herself, looking only at the result, which was usually speedily attained, and entirely unaware that very likely she was violating every philosophical principle bearing upon what is now the much-vexed question of teaching to read. Be that as it may, I certainly mastered this important foundation of all education, and I think likely also the rudiments of writing and arithmetic, before, at the age of eight, I passed a winter and a summer at the nearest district school. My recollections of the winter school are exceedingly shadowy. It was kept by a man who struck me as rather an awful personage, who maintained a vigorous discipline among a set of scholars who seemed to me mostly young men and women, and taught them what he could according to the methods of those days, which, I fancy, each teacher struck out for himself, as many men who found themselves possessed of any aptitude for it made a business of teaching the winter schools, and sometimes established quite a local reputation. As the youngest scholar and reasonably well-disposed, I do not think I incurred much of the *discipline* of the establishment. At any rate, I have no disagreeable recollection of it, but rather of being the pet of the older boys and girls, the former of whom gave me rides upon their sleds or in their fathers' sleighs and wagons to and from school, while the latter looked out for the little boy in various ways, according to the kindness of their hearts. No doubt everything was very primitive. Ventilation was not, except through the cracks and ill-fitting joints of the doors and windows, and we were roasted and

frozen alternately; but people endured very much the same condition of things in their houses, and these troubles passed lightly over our heads and apparently did not hurt our bodies. I will mention one occurrence which may illustrate some of the habits of those days, and which is firmly fixed in my memory. The duty of making the fire in the old box-stove devolved upon the older boys in turn; and as the wood provided by the district was probably clumsy and green, smoke was pretty freely produced before the fire was successfully kindled. Going to school earlier than usual one morning, I found the room full of smoke, and the unfortunate wight who had made the fire imprisoned by the fingers of one hand by the falling upon them of the weightless window, which he had opened to clear the room. As he had found shouting and screaming of no use on the untravelled road, and was unable to raise the window, he had managed to get out and open his jackknife, and with true Yankee grit was proceeding to liberate himself by cutting away the part of the sash that held him prisoner. Fortunately my young strength judiciously applied was able to set him free, and, though with a bruised and aching hand, he proceeded, with my assistance, to finish the lighting of his fire. How remote and almost impossible seems such an experience on a spot very near which now stands a lofty brick schoolhouse, accommodating hundreds of pupils, the humblest and poorest of whom enjoy all the supposed advantages of steam or furnace heat and the services of a highly paid janitor!

The summer school was kept by a tall and dignified lady, the daughter of our member of Congress, — a man of considerable note, who lived near by. She was a person of much social consideration, who lent dignity to her employment, and has ever remained in my mind as the embodiment of the authority and kindness suitable to her position. The summer school was composed chiefly of girls, the larger boys being kept at home to work upon their fathers' farms. I thus had the benefits of coeducation, being taught to do what the girls did, needlework included, in which I became such a proficient that I finally succeeded in making a shirt of the most approved pattern of the day, which was considered an equivalent of the bachelor's degree in that branch. I had a very pleasant experience in this school. Every one did what was expected or required. There were no examinations or visitations till the closing day. The doors and windows stood open through most of the long days of the bright New England summer, admitting the song of the birds and the odors of the flowers and the new-mown hay. There was much happy play in and about the school during the noonings, when, if pleasant, we took our baskets and pails with our simple dinners to a lofty rock in the neighborhood, which afforded either a pleasant look-out or a cool shade, being careful, as we were taught, to draw up at the side of the road and take off our hats to "travellers," these being usually persons of some consideration, like the minister or the doctor, riding in their own chaises or carriages. Out of respect to my sex, I was the

person usually deputed to bring a pail of water, — rather a small one, — from a somewhat distant but cool and delicious spring, having a smaller boy with me to “spell” me occasionally when the pail began to grow too heavy for my nine-year-old arm. On our way back we used to try experiments in natural philosophy by whirling the pail vertically over our heads, trusting to the centrifugal force to keep the water in it, in spite of the force of gravity. This devotion to natural science sometimes cost us a wet jacket when the experiment was clumsily performed, necessitating a return to the well, to which we were nothing loath. Ah, golden days of simple pleasures and happy childhood, to be enjoyed but once, and so difficult to realize at the present day, at least by the dwellers in cities!

In the autumn of that year, 1823, I entered the private school of Mr. Moses Mandell, in the vicinity of Meeting-House Hill. Mr. Mandell was one of those natural teachers that the time sometimes developed; and I am convinced that his school must have been an excellent one, and very favorable to the development of individual talent or aptness, — that great desideratum, so hard to realize in the immense establishments of the present day. There was no class-work, for instance, in arithmetic. Every scholar had his book and slate, and filled his spare time with ciphering, going to the teacher only in his difficulties and to show his work when required. In this way I rapidly mastered the arithmetic of the day, delighting in questions of Simple and Compound Interest of the most complicated character, and was attacking Alligation Medial and Alternate at about the age of ten years. We had also a specialty of map-drawing; and, having procured with some difficulty drawing-paper, pencil, and the newly introduced india-rubber from the neighboring city, our ingenuity was put to the test to rule the outside border of the map, make the parallels of latitude and longitude with such instruments as we could devise, and devote months, perhaps, to filling in with shading and printing all the coasts, mountains, rivers, and towns, and finally painting it according to our respective tastes. Much good work was done in this way, the very hardness and difficulty of which fixed the countries indelibly in the mind. For the rest, a good deal was expected in this school of boys of nine or ten, as I remember reading and parsing in such books as Thomson’s Seasons, and declaiming from Homer’s Iliad and Lord Chatham’s speeches. I remember one thing in which the whole school participated, which would seem very strange to teachers and scholars of the present day. On the last Friday afternoon of each month, we were duly marshalled in procession and led by our teacher to the neighboring First Church of Dorchester to hear the lecture preparatory to the communion preached by the excellent and venerable Unitarian divine, Dr. Thaddeus Harris. We occupied a considerable space in the gallery, forming in fact the larger part of the audience. No doubt the lectures were excellent, but my mind was more impressed by the faces and contor-

tions of the player upon a huge wooden musical instrument, called, I believe, a bassoon, of almost the size and shape of a boa-constrictor. I mention this as a survival of the Puritan habits of the previous century. It called forth neither comment nor objection on the part of parents or scholars, which would hardly be the case at the present day.

My road to this school, about a mile in length, led through what is now called Columbia Street, then a very sequestered path rejoicing in the name of Love Lane. Though, I suppose, it was a public road, my short legs were usually the first to "break it out" after a snow-storm, sometimes, as was frequently the case when I had been the only traveller, being planted in the same holes at night that I had laboriously made in the morning. But under no circumstances was there any change or relaxation in regard to school sessions or hours, nor did it occur to the little boy or his parents that attendance was an impossibility.

Nor was this school without its pleasures. With the leafy spring and summer, Love Lane became a delightful walk. Some great buttonwood trees, then happily flourishing, afforded a pleasant shade for our mid-day simple lunch, or the waters of the neighboring beaches invited a cooling bath. On Saturdays, too, and occasionally at other times, our military tastes were cultivated by our voluntary organization as an artillery company, thus anticipating the supposed commencement of military drill as a school exercise nearly forty years. My martial zeal induced me to apply my nine-year-old strength, in conjunction with another boy of about the same age, — a sort of pony team, — to the dragging of a brass cannon, probably something less than a one-pounder, through the pleasant roads of Dorchester, our shirts being belted outside of our trousers in imitation of the white frocks of the cannoneer drivers of the period. Our military labors were somewhat lightened by the kind interest taken in our company by the citizens of Dorchester, inducing them to give us a succession of "treats" during the strawberry and cherry seasons. More particularly I remember a reception extended to us by Daniel Webster, — then a summer resident of Dorchester, at the well-known Wells Place, — out of the liberality of his heart, the magnificence of which made an indelible impression on my childish mind, as did also the grand figure and noble courtesy of our host, then in the prime of his manhood. Altogether the year that I passed at Mr. Mandell's school was both pleasant and profitable. I think he must have been an extraordinary man and a very skilful teacher, who fortunately had found his right vocation in life. Probably the number of such teachers at that time was greater than is now supposed, and did something to mitigate the absence of any regular preparation for the business of teaching. Such men make their own preparation and their own methods, which will always *work* successfully in their hands, even if not abstractly and theoretically the best. At any rate, when I re-

moved to Boston, in the summer of 1824, and entered the Boston Latin School at the age of ten, I found myself at least as well equipped as the boys who had had the advantage of the Boston schools, and I think in advance of the average Boston scholar of that age at the present day. I mention this merely to show that the country-town education (for Dorchester was essentially a country town) in the earlier part of the present century was more efficient than it sometimes has credit for, and that there were teachers worthy of the name, working with such appliances as they could get, and such education as they could secure by their own efforts and at their own expense.

The Boston Public Latin School, at the time of my entrance (August, 1824), was in a state of high efficiency, and, in some respects, in its palmy days. It was presided over by that excellent scholar and genial and accomplished gentleman, Benjamin A. Gould, with a staff of assistant teachers such as are seldom found together in one school. During my five-years course Frederic P. Leverett was sub-master, and subsequently principal; Epes S. Dixwell, so well known as a Boston teacher, was also sub-master and principal after my day, while the usher-ships were filled by such men as Thomas G. Bradford, William Newell, Charles K. Dillaway, and Chandler Robbins, all of whom attained distinction in their respective professions in subsequent years. A position in the Latin School, even at what seems now the very humble salary of six hundred dollars, appears to have been considered the right place for the well-born and liberally educated young gentlemen of Boston whose means did not admit of their undertaking the study of their chosen professions for some years after their graduation. All of those mentioned above had distinguished themselves at Harvard College, and did excellent work in the school, while some became permanent professional teachers. Mr. Gould had brought up the school to a high position of efficiency, good discipline, and popularity, and was then ruling it firmly, easily, and kindly. He had the confidence and respect of the authorities, parents, and pupils. As far as I can remember, everything seemed to go on with smoothness and harmony. The school consisted of about two hundred and fifty pupils, including scions of all the first and oldest Boston families, — Otises, Sargents, Sullivans, Sumners, Wigglesworths, Austins, Motleys, Sturgises, etc., — and a respectable middle-class element, including many, like myself, who but for its advantages would never have been able, from lack of means, to make their preparation for college.

The pre-eminent scholarship of Robert C. Winthrop and George S. Hillard, who had just entered the University, and to whom the city had awarded fifty-dollar gold medals, was an exciting tradition, handed down from class to class. The day of improved classical school-books had arisen and was fast brightening. While I was a pupil, Gould's edition of Adam's Latin Grammar, Gould's Ovid, Virgil, and Horace, were published; also Leverett's Cæsar and Juvenal, and about

this time Farrar's Cambridge Course of Mathematics and Colburn's First Lessons and Sequel. It was a regular *renaissance* in the school-book department of education, as these books took the place of the antiquated, cumbrous, and often expensive Delphin editions of the classics, and of arithmetics, etc. that gave rules but no reasons for mathematical processes. Nor were these books published in the cheap and fragile style of the school-books of to-day, but in a neat and substantial leather binding, that gave a boy a respect for his classics, and enabled him, after fair usage, to pass them down to a succession of younger brothers. The scholars took much interest in these books as they went through the press; they heightened our respect for our master, who allowed us, as a recreation, when our lessons were learned, to hunt for errors in the proof-sheets, or to verify the references in the Virgilian Index. Probably no more correct editions have ever been carried through the American press. I was a little too early for Leverett's excellent Latin Lexicon, which was published in 1837, and was a great advance on any Latin dictionaries then in the Boston bookstores; or for Pickering's Greek Lexicon or Felton's Homer. It was a happy day for the schoolboy and collegian when the former was published; previously we had to use Schrevelius's Lexicon, printed in the finest of type, and with the meanings of the Greek words translated into Latin only. This afforded us a good discipline in the two languages, it is true, and no one thought of grumbling against what had been done by previous generations of scholars, and was looked upon as a sort of fate.

On the whole, I look back upon my five-years course at the Latin School with much satisfaction. Things were rude and simple, perhaps uncomfortable; but we did not know or feel it. Ventilation probably did not exist; but the rooms were very large for the number of occupants, with plenty of open windows in summer, and roaring wood-fires in winter. Our outside accommodations were exceedingly limited, and would probably have horrified a Board of Health; but practically we had the use of the Court House Square, the porch and graveyard of the Stone Chapel, and the empty Tremont House lot, for our daily sports, as well as the untrammelled use of the Common when time admitted. Here we roamed, fought, and played marbles, ball, etc., in their appropriate seasons; all this without fear of interference from the police, who, as preservers of general order in the streets and public places, hardly existed. I presume we were more or less a nuisance to the neighborhood; but something was pardoned to the spirit of boyhood, and I remember nothing rowdy or malicious. Difficulties were promptly settled on the spot, or as soon as convenient, by personal combat with nature's weapons, thus saving the masters much trouble in the way of investigations and punishments. The discipline of the school was prompt and simple, but I do not think it was cruel or over-rigorous. Of course the use of the rod existed, but I have no recollection of its

being cruelly applied; and in the few instances when I felt it, I knew that I deserved it, and did not break my heart or bear any ill will to those who applied it. My recollection of all my teachers is very pleasant, and I count those now living among my best friends. They made an impression upon my youthful mind as both learned scholars and kind-hearted and elegant gentlemen.

The course of instruction at the Latin School at this period was very thorough, though quite limited. The great staples were Latin and Greek, with sufficient Mathematics and Geography to comply with college requisitions, English Composition by the highest class, and occasional Declamation without instruction. These studies were generally taught one, or at most two, at a time; i. e. for long terms of time we devoted ourselves to Latin, commencing Greek in connection with it in our third year, and then, laying them entirely aside, we spent all our time for a comparatively shorter season on Mathematics and Geography. There was no division of labor. Every teacher at times taught all the branches embraced in the course, and by the changing about of the classes had an opportunity to try his hand on all the members of the school. Nor did the head-master confine himself to the upper classes. I remember very well taking my first steps in the Latin Grammar under his direction, and remaining in his room, the great hall of the school, which then struck me as a magnificent apartment, for a considerable time.

This may seem a very limited course of study, and a primitive method of applying it; but in some way or other *it worked*, which after all is the main point. I would not maintain that the course was sufficiently varied, or embraced all the branches desirable in a thorough education, and will show presently how it was supplemented from the outside to supply its shortcomings; but a very good argument might be made in favor of the very thorough teaching of a very few things, from the great success in college and subsequent professional life of men who received only this narrow training. To mention the names of Winthrop, Hillard, Motley, and Sumner as specimens of the results of Latin School training in my day might be unfair; but these men certainly laid the foundation of their education and eminence there, and never seem to have been found wanting. The fact probably is, that where a course so largely classical hit the bent of a boy's mind sufficiently to interest him, and was ably and judiciously carried out, it did largely the work of education. It may be compared to a bullet from a rifle, which, when it hits, is extremely effective, but, if it misses, is entirely ineffectual; whereas the wide and varied course of study, like a discharge of small shot, is more likely to touch some faculty or taste of the common scholar. To make a classical course effectual in any case, it must be extensive, thorough, and interesting; and this, according to my recollection, the Latin School course at that time certainly was. The grammars were mastered in a manner that could not be surpassed, though, looking at

the subject from the light of subsequent experience, I should say that much unnecessary matter was memorized; but time was plenty, and it was necessary to keep the boys at work, and, once learned, all the matter was useful sooner or later. The instruction in the construing, parsing, etc. of the authors read was very thorough. In etymology and prosody, particularly, I think it was far in advance of the average school instruction of the present day, if I may judge by the opportunity afforded me as a visitor to the Classical Department of Harvard College. It was hard to catch the average Latin School boy of the upper classes in a false quantity, and he could name almost unerringly the remotest parts of a Greek verb, or form them from the roots by the round-about and clumsy methods of his Gloucester Greek Grammar, reminding him very likely of the successive stages of "The House that Jack built." It probably was not philosophical, but it was effective. No importance was placed upon Greek accents; in fact, they were never alluded to, except occasionally to distinguish one word from another, nor were they allowed to influence the pronunciation of the words. Nor was the subjunctive in either language, or the use of the particle *ἄν* in Greek, brought into the great prominence that has been allowed them of late years. Our attention was directed to ascertaining the exact sense of the author in hand, in accordance with the strictest grammatical construction, and expressing it in proper and grammatical English, rather than to trying to imagine what *would have been* the sense if he had used a different tense or mood. His actual language was sufficient for us, and over that we gradually attained a fair command, entering into the spirit and sense of his work as well as the verbal expression. A good deal more was done in the regular school course of five years than was required to enter any college, and the amount of Latin and Greek required for entrance at that time was by no means so small as is often nowadays assumed by those whose memories do not go back fifty or sixty years; in fact, in number of Greek and Latin authors, and books and pages of their works, I think that Harvard, at least, required considerably more than at the present day. In addition to the Grammar and one or two preliminary books, we studied, in the required course, Nepos, Sallust, Ovid, the whole of Virgil, and all the select orations of Cicero; and in addition to this, to fill our time, in our last school year, several of the best Satires of Juvenal,¹ learning by heart the first, third, and tenth in so thorough a manner that large portions of them still remain in the memories of those who were Latin School boys in the year of grace 1829. In addition to the Greek Reader, a book of considerable size, and the four Gospels, required, the first book of Homer was added to our course, which was memorized in the same thorough and lasting style as the Juvenal, with the most minute attention to the prosody and dialectic peculiarities. As the first book covers almost all the poetic and Homeric peculiarities which render Homer difficult to the young

¹ Horace was used by some classes.

student, the absolute mastering of these rendered the reading of other portions of the Iliad or Odyssey, in the Junior year at college, a work of great comparative ease to the Latin School boy; for there was little danger of memory's ever losing its hold upon anything contained in the first book. I have within ten years past sometimes had sportive contests with my lamented friend, the late G. S. Hillard, and others, to see which of us could remember the most consecutive lines, starting from any point in the first book of Homer, or the first, third, or tenth Satires of Juvenal.

In addition to all our regular and required labors we had an exercise of a sportive nature, and voluntary except so far as *esprit de corps* induced a boy to engage in it, namely, the capping of verses. Ambition to excel in this exercise led us to the preparation of books of verses alphabetically arranged, preference being usually given to such as were specially odd or sonorous. The memory being well stored with these, long contests were maintained between divisions or classes, or individuals of the same class; and any public occasions were generally closed by a large portion of the school engaging in this exercise with a prompt discharge of favorite lines rattling round the hall like a volley of musketry, and sometimes participated in by old members of the school, who had attained the dignity of school-committee men, aldermen, etc. Thus we filled our time for five years, — and there was a good deal of time to fill. The vacations were short, and the special holidays few. It had not been discovered that study could not be carried on in the latitude of Boston in the months of July and August; so, instead of two or three months' vacation in summer, we had but about two and a half weeks, school closing about the 20th of August. The school days, too, were long, — from eight to eleven, and for the three upper classes twelve; and from three to six from April to October, and as near the same amount of time as daylight would permit for the rest of the year. Nor am I aware that this large amount of school time had any unfavorable influence upon the health of either teachers or pupils. There was this compensation, that there was *abundant time* to do the required amount of work. There was none of the hurry and drive to get through the year's or the day's work that make life so hard in schools of the upper grade at the present day. Whether there was not an advantage in the old order of things I will not discuss, as it is impossible to return to it under the changed conditions of society.

I promised, when speaking of the limited nature of the Latin School course, to show how it was supplemented. There were at that time several private schools for boys in the city, of good repute. Two at least of these had, in connection with their regular day school, what was called an Intermediate School, the name indicating the portion of the day occupied by it, not the advancement of the scholars, as the term is now used. To these many of the pupils of the Latin School resorted, especially from the lower classes, from eleven or twelve to one

o'clock, and often later, to receive instruction, especially in reading, spelling, writing, and other rudimentary studies not embraced in the Latin School course. The most prominent of these schools, combining the instruction of both day and intermediate scholars, was kept by the late Gideon F. Thayer, whom you knew so well in connection with the American Institute of Instruction, and wherever else any good work was to be done for the cause of education. The school was known as Harvard Hall, occupying the whole upper story of a large two-story brick building in Harvard Place, an open space in the rear of the old Province House and of the church in School Street, and accessible by narrow passages from School and Washington Streets. Though in the very heart of the city, it was retired and quiet, with considerable space for play. I can well remember rushing daily, in hot haste and at break-neck speed, from one school to the other, and engaging at once in an entirely different round of duties and studies. We not only had to serve two masters, but two sets of masters; for the division of labor had been already introduced in some degree into Mr. Thayer's establishment, the school being large enough to allow of its advantageous employment. Here certain duties were strictly required of us, and I feel that I owe much to Mr. Thayer's instruction, especially in the branches of handwriting and elocution, in the teaching of both of which he was eminently accomplished and successful. It is unnecessary to tell you that Mr. Thayer was one of those natural teachers who, though bred to business, fell into his right niche as principal of a large school; nor of his urbanity and conscientiousness in discharge of duty. What we undertook to do in his school was strictly required of us before our dismissal, so that it often made rather sharp work for us to reach our homes, dine, and be back in season for the afternoon session of the Latin School, especially in the half-year that it began at half-past two o'clock. I presume, under these circumstances, dinner was often cut short or bolted in a most unhygienic manner. But nobody noticed such things in that day. They were looked upon as a sort of fate, and the days of cosseting boys had hardly begun. They were considered a tough sort of animal, capable of much endurance. At any rate, I bore it contentedly and happily till the close of my Latin School course in 1829. My relations with my teachers in this school were all pleasant, and, in addition to Mr. Thayer, I well remember Mr. William Russell, Mr. Theodore R. Jencks, and Mr. Clement Durgin, as excellent teachers and accomplished gentlemen.

During the last year of my attendance Mr. Thayer's ambition to realize his ideas of a perfect school led him to embark in what was considered the hazardous experiment of erecting a fine building in perhaps the best locality in the city, being a part of the lot of the First Church in Chauncy Place. Though not having large resources, his character and habits had so favorably impressed men of business that he had no difficulty in obtaining the means of building what was con-

sidered for many years a model schoolhouse, designed especially to carry out his idea of the division of labor, and furnished with many comforts and conveniences which had been unknown in schoolhouses up to that time. That his ideas were good seems to be pretty well proved by the fact that the school was at once, and has ever since been, a success, never going under in commercial or financial panics, or long seasons of depression, and, after various migrations and one destruction by fire, is still flourishing, in a better home and with larger numbers than ever, in the most elegant quarter of the city. There was evidently much vitality in the seed planted by Mr. Thayer fifty-five years ago, and which has been watered and tended so carefully by his successors.

This seems to finish my account of my schools; but it may not be out of place to mention, that when I finished my course at the Latin School, in August, 1829, I was requested by Mr. Thayer to enter his employment as an apprentice or pupil-teacher in his new establishment, where there was plenty of work for various grades of experience and ability. The door not being open for me at that time to enter college, I gladly accepted his offer, and commenced my life labors in connection with Chauncy-Hall School, where I went through all the grades of service, and labored, I hope with some effect, till my retiracy, in 1879, in good health, and with a pleasant retrospect of my long term of school-keeping.

It has given me much pleasure to recall some of the scenes and experiences connected with the schools of my boyhood. As they are all pleasant, it has enabled me, not *renovare dolorem* of early years, as is often the case in such reminiscences, but to renew and deepen the happiness which pervaded those days, and the feelings of gratitude which I owe to my schools and teachers. I feel that both were good, and I thank you for giving me the opportunity to pay this slight tribute to their memory.

Very sincerely your friend,

T. CUSHING.

*Notices of Masters and Submasters, 1824-29.*¹

BENJAMIN APTHORP GOULD, graduated H. U. 1814, A. M. 1816, was born in Lancaster, Mass., June 15, 1787, and died in Boston, October 24, 1859. His father was a captain in the Revolutionary army, and a member of the Society of the Cincinnati. The family removed to Newburyport early in the present century. He studied in the schools there, and entered Harvard University in 1810, and before graduation was appointed by the recommendation of President Kirkland to fill a sudden vacancy in the Mastership of the Latin School, giving such satisfaction that he was continued there and allowed his degree. Under his mastership the school rapidly advanced in reputation and numbers, till, from occupying only the third story of the old schoolhouse in School Street, it grew to fill the whole building. Mr. Gould's personal influence in producing among his numerous pupils a high standard of moral and intellectual excellence, was marked and powerful. His kind and uniformly just government gained the reverence and love of all who came under his discipline. Whilst connected with the Latin School he published editions of Adam's Latin Grammar, revised and annotated by himself; also of Ovid, Virgil, and Horace, with copious and valuable notes of his own. These were the standard editions for many years.

After leaving the Latin School, he became an honored and successful merchant in the East India trade. He married, Dec. 2, 1823, Lucretia Dana Goddard, daughter of Nathaniel Goddard, Esq., a prominent merchant of Boston, and became the father of four children.

[An account of the Latin School under his administration, drawn up by himself, will be found in Barnard's Journal of Education, Vol. XXVII. p. 81.]

FREDERIC PERCIVAL LEVERETT, son of Benjamin and Comfort Marshall Leverett, was born at Portsmouth, N. H., in 1803. His father, who had been a merchant in that city, having removed to Boston, he was educated at the Latin School, and at twelve was ready for college, entering at the age of fourteen. After graduating, he entered the office of Dr. Jacob Bigelow, but the support of his father's family early devolving upon him, he gave up the study of medicine, and was appointed Sub-Master of the Latin School in 1824, and Head-Master in 1828. He was a remarkable Latin, Greek, and mathematical scholar. Besides the Latin Lexicon which he edited, which is a monument of his industry and learning, he edited and published the Commentaries of Cæsar and the Satires of Juvenal, with excellent notes. In managing the school he showed great skill. The boys respected and loved him, though his disposition was not a cheerful one, and became, after the death of his wife, somewhat gloomy. After resigning his position in 1831, he established a school for boys in Boston, and was very successful. He was reappointed to the Head-Mastership (with increased salary) in 1836, but died the same year before entering on the duties of the office. He married Matilda Gorham, a lady born in the West Indies. The following is an extract from a review of his Lexicon:—

"Mr. Leverett gained an enviable reputation, and deserved it. His Latin Lexicon, of all his works, merits a place among the first class-books of the kind wherever produced. His last four years were identified with this labor, and the closing sheet went to press on the very morning of his decease. The established character which this work has attained throughout the country, and in the highest schools and colleges, is, among the rest, sufficient evidence of its merit; but it ought to be added, that it has done something for American scientific and literary reputation abroad. . . . We have a just right to feel proud that a work *so learned, so correct, so elaborate*, is the result of American ability, industry and enterprise. Wherever the Latin language is studied and the English spoken, this work will be received with grateful acknowledgments. . . . Thus much of eulogy on a book, and a just one on a man; one which we fear there will not be frequent occasion to repeat in other cases; for

¹ From Catalogue of Boston Latin School, in preparation, 1883.

the age is not of a character to produce in this department, what Leverett's *Lexicon* has been truly called, — a monument of patient toil."

The *North American Review* says:—"We cannot close this article without paying a tribute of respect to the character of the late Mr. Leverett. By his lamented death, his friends and the public have sustained no common calamity. His eminent abilities as a teacher, and his attainments in classical scholarship were well known in this community. His learning was profound and accurate, his taste correct and severe. He was indefatigable in labor, zealous in acquiring and skilful in communicating knowledge, and scrupulously exact in enforcing discipline. Whilst at the head of the Latin School in Boston, he more than sustained the already high reputation of that noble institution, and when, a few years before his death, he withdrew from that honorable station, he was followed by public confidence and favor. To the exhausting labor of instruction he added the gigantic task of preparing his *Dictionary*; a task which he had just completed when, in the prime of life and in the vigor of his powers, he was struck down by the hand of death. Mr. Leverett's high intellectual endowments and uncommon purity of moral character were graced by the charms of singularly modest and unassuming manners, which had won for him the cordial attachment of a large circle of literary friends. His private virtues they alone can truly estimate; but of his learning and capacity for labor 'EXEGIT MONUMENTUM AERE PERENNIOUS.'"

CHARLES KNAPP DILLAWAY, graduated H. U. 1825, A. M. 1829, was born in Roxbury, Oct. 19, 1804, and, after filling the positions of Usher and Sub-Master, was appointed Head-Master in 1831. He resigned his position in consequence of ill-health in 1836. He subsequently taught a private school for boys in Boston, and for young ladies in Roxbury. He has been an active member of many literary, scientific, and charitable societies, and has published the following books: twelve volumes of Latin classics, with notes, viz. eight of Cicero, and one each of Plautus, Terence, Quintilian, and Tacitus; also the *Colloquies* of Erasmus; *Roman Antiquities and Mythology*; *History of the Roxbury Latin School*; and biographical sketches of many noted men. He assisted John Pickering, LL. D. in preparing his *Greek Lexicon*, and J. E. Worcester, LL. D. in his *English Dictionary*. He has contributed frequently to periodical literature, besides being often called upon to teach our language to foreigners, among whom he has had many Japanese pupils. He has been for many years President of the Latin School Association. He married Martha Ruggles Porter, daughter of Rev. Huntington Porter of Roxbury, and has had five children.

EPES SARGENT DIXWELL, graduated H. U. 1827, A. M. 1829, second son of Dr. John Dixwell, born in Boston, Dec. 27, 1807. He was Usher in the English High School from 1827 until October, 1828; then Sub-Master in the Public Latin School until the summer of 1830. He was admitted to the bar in 1833, and invited in November, 1836, to become Head-Master of the Latin School, and was inducted into office, Dec. 5, 1836. He removed to Cambridge in 1842. In 1851, the City Council having voted that all their employés must reside within the city limits, he resigned his position, and established a private Latin school, to fit boys for college. This school was highly successful, and was maintained for twenty-one years, until 1872. His administration of the Public Latin School was highly successful. The Latin School Association was suggested and begun by him, and the funds for beginning its library and cabinet were collected by his influence. In 1844, while he was Master, the schoolhouse in Bedford Street was first occupied. He is a member of the American Academy of Arts and Sciences, and of other learned bodies. He married, June 4, 1839, Mary I. Bowditch, and has six children.

HISTORICAL SKETCH, 1828 TO 1883.

CHAUNCY-HALL SCHOOL was founded in 1828, by the late Gideon F. Thayer, whose life is given in a former volume (iv. 613-621) of this Journal. His previous experience in the public service and in a large private school of his own, had convinced him that what was needed to give the best possible education was a wise application of the principles of the division of labor, and the departmental system, under circumstances where they could be fully and properly applied. To do this, a building was needed of a peculiar construction, in which also it was proposed to introduce various other improvements and refinements which seemed desirable in order to place school life on a level with the family life of the period. A site was obtained in Chauncy Place, in the midst of elegant residences and blooming gardens, enjoying almost the quiet of the country, and having light and air on all sides. A spacious and handsome brick building was erected, standing upon stone pillars, thus giving a large sheltered area for a play-ground. Above this were recitation rooms, and a large room for a Preparatory Department for small children, with a separate entrance; and on the third story a spacious, lofty, and handsome hall, and a private office. In this hall were seats for one hundred and twenty pupils, comfortable chairs being used for that purpose for the first time in school furnishing. The school was also heated by a furnace, and in addition to some rudimentary system of ventilation, the windows were arranged to drop from the top, — both novelties at that time, — and it had various other appliances for health and comfort, marking the beginning of the era of school hygiene.

In this hall the Principal presided over the assembled pupils, led the devotional exercises, and often made short addresses on such moral and other subjects as the daily life of the School presented, thus solving in a practical way the much discussed question of *moral instruction*. Some general exercises were also attended to in this hall, such as writing, declamation, spelling by dictation from the class reading-books (a mode of performing the exercise first introduced, it is believed, in this school), and, in due time, music.

The Upper Department was divided into six classes for the English and Mathematical studies, with subdivisions for the languages. While part of these classes filed into the recitation rooms of the different departments, the rest remained in their seats, attending to their lessons, and at the end of a fixed period (usually three-quarters of an hour), a change of classes was effected. Thus the whole school passed daily, or frequently, before teachers devoting themselves to special branches of instruction, — a system previously practised only in colleges, but equally practicable and advantageous where schools of sufficient size can be formed to apply and support it. The school was entirely filled from the beginning. In 1830, Mr. Clement Durgin, who conducted the English Department, became a partner with Mr. Thayer in the management of the School. Mr. Durgin had eminent gifts for teaching. He was fond of Natural History, and had introduced the study of it, illustrated by a solar microscope belonging to the school, with great success. He bid fair to become eminent as a teacher; but unfortunately his life was cut short by consumption, in 1833, at about the age of thirty.

Mr. William Russell, so well known as an instructor of elocution, and for general scholarship and accomplishments, was employed at Chauncy Hall from the beginning, in 1828, until ill health caused his temporary retirement. He was re-engaged in 1840, and devoted all his time to the school for several years, doing very excellent work in elocution, rhetoric, and the systematic teaching of English literature and composition. His instruction and courteous bearing are remembered with gratitude by many of his pupils still living.

The study of Drawing was introduced in 1830, and has always been continued in the School. The first teacher was Mr. Graëter, a German gentleman of great ability. Under his direction, an elaborate set of wooden models of architectural and geometrical figures was constructed, of which the pupils made drawings; they also took excursions into the neighborhood of Boston, to draw from nature, under the direction of their instructor. In subsequent years Mr. D. C. Johnston and Mr. B. F. Nutting, artists of repute, had the

direction of this study at Chauncy Hall, the instruction being given to the greater portion of the pupils of the school.

In 1833, Vocal Music was introduced as an experiment, by Lowell Mason; and the experiment being successful, the instruction has been regularly given up to the present time, the branch being gradually introduced into the public and other schools of the city and country.

In 1840, Mr. Thomas Cushing, Jr., of Boston, who had conducted the Classical Department since 1834, was admitted to a partnership with Mr. Thayer in the general management of the school, and continued to have the sole charge of the Latin and Greek classes in preparation for college, with various additional duties, up to 1864, when Mr. Herbert B. Cushing became his assistant in that work. Classes have been sent to college annually since 1834 to the present time, with good average success, numbering in all about two hundred individuals.

At the close of 1855, Mr. Thayer retired from his position of Senior Principal, and Mr. Cushing assumed the duties of sole Principal, in connection with all the instruction of the Classical Department.

In 1860, Mr. Wm. H. Ladd became Associate Principal with Mr. Cushing in the management of the school, having taken charge of the Elocutionary, Rhetorical, and Belles Lettres Department at the retirement of Mr. Thayer, at the close of 1855. Mr. Ladd had previously been Principal of the Shepard School in Cambridge.

In April, 1861, military drill was established, Chauncy-Hall School being the first to adopt it. 'Company drill was first introduced and taught by the Senior Principal, and subsequently battalion drill by Mr. H. B. Cushing and Gen. Hobart Moore. Two stands of arms have been provided by the school, and a third given by friends. The drill has been maintained without interruption to the present time, Mr. E. DeMerritte having now the charge of it.

In 1867, Mr. Herbert B. Cushing became a partner in the business of the school, devoting himself mainly to classical instruction and military drill.

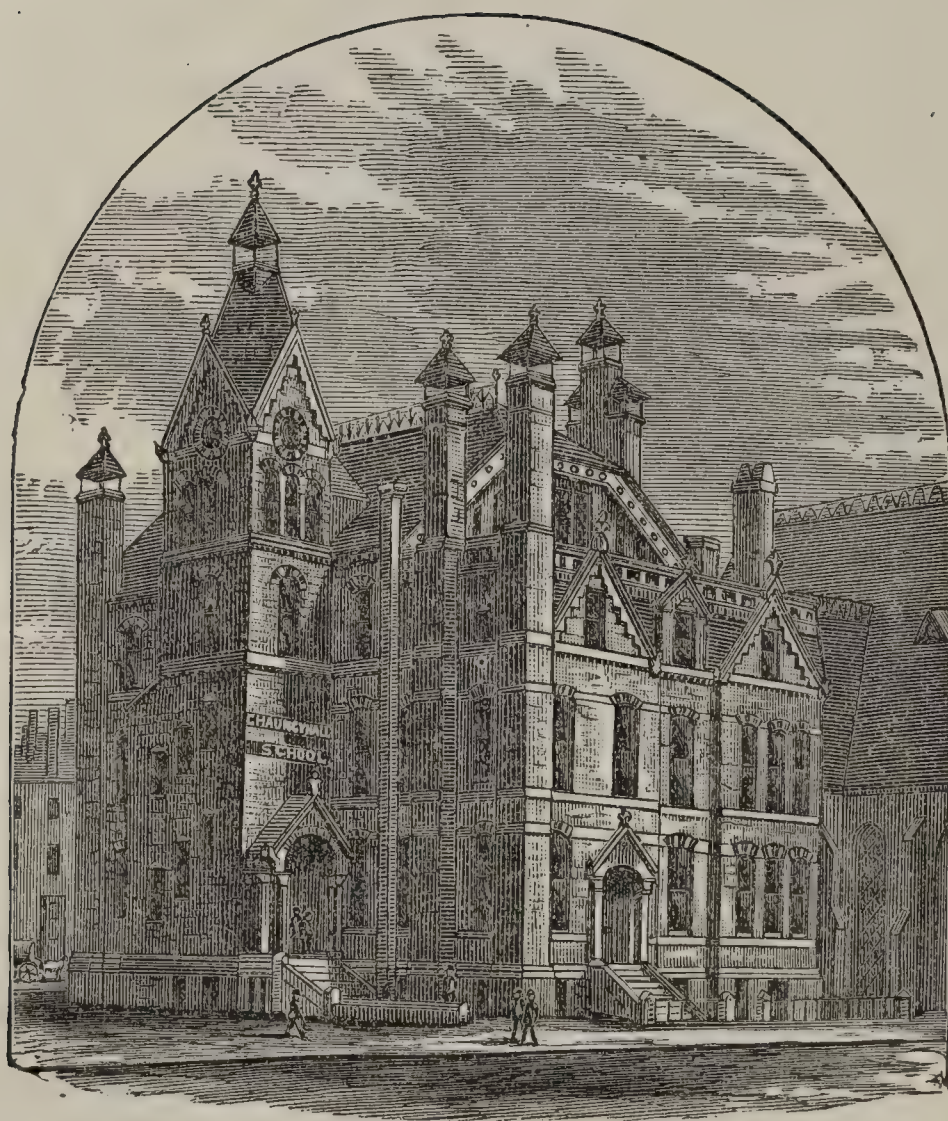
In 1858, girls were first admitted to the Preparatory School, and in 1861, by particular request, two were received in the Upper Department. The number has gradually increased, till at the present there are eighty in attendance. They have participated in all the studies of the school, and several have been prepared for college.

In 1865, Miss Harriet L. Ladd became a teacher, being the first lady to occupy such a position in the Upper Department. She did excellent work till 1876, when she retired on account of ill health, loved and respected by all.

In 1868, Chauncy Street — no longer Chauncy Place — became a great thoroughfare and centre of business, and the school was obliged to migrate to Essex Street, occupying four stories of a building erected specially for it, with many new comforts and conveniences; but in 1873 it was suddenly driven hence by a fire which utterly destroyed the building and all its contents. This occurred in the middle of the May vacation of one week, and on the following Monday arrangements had been made by which the school was received into John A. Andrew Hall, also in Essex Street, and everything necessary to carry it on had been provided. There was no diminution of numbers, interest, or discipline. This location was, of course, provisional, and after much search and comparison of advantages, the present building was erected on Copley Square, 259-265 Boylston Street, by a stock company consisting largely of former pupils, or friends of those in school at the time. The site has been improving yearly, till it is one of the best in the city, — perhaps the very best, — in the midst of elegant and costly buildings, while the building is much larger and more commodious than its predecessors, accommodating more than double the original number. In September, 1874, the school took possession. In same year a Kindergarten was established, which is now (1883) under the charge of Miss Lucy Wheelock.

In 1878, Mr. H. B. Cushing retired from his position as a partner; and in 1879 Mr. Thomas Cushing also retired, having been connected with the school in different capacities for fifty years.

Mr. Ladd remained sole Principal and proprietor, till in 1882 Miss Mary H. Ladd became Associate Principal with her father, having taught in the Classical Department since 1880. The number of scholars in all departments, according to the Catalogue of 1883, is 420.

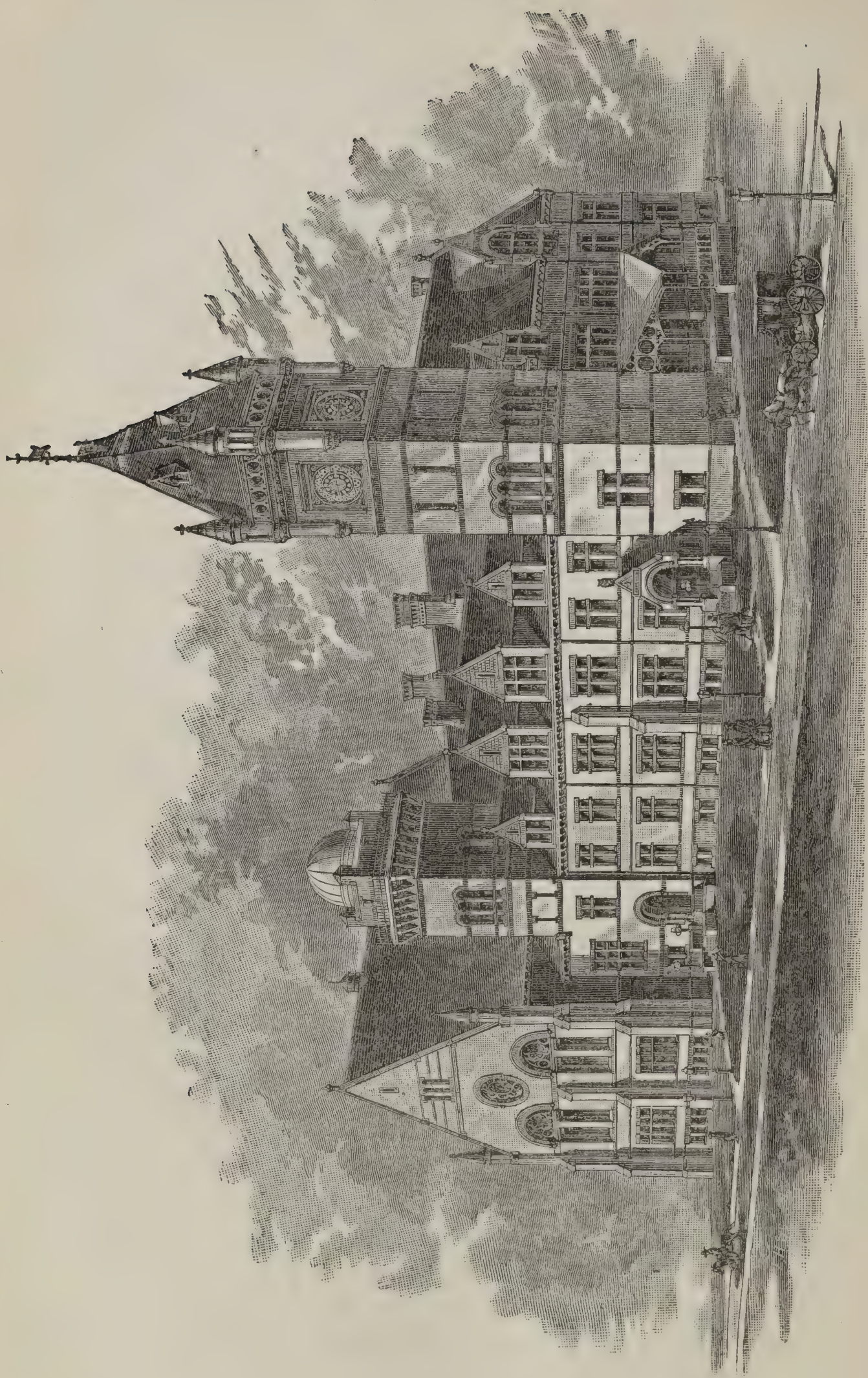


NEW BUILDING FOR HARTFORD PUBLIC HIGH SCHOOL—1882-83.

The Hartford High School Building was destroyed by fire January 24, 1882, and a town meeting was immediately called, at which James G. Batterson, James L. Howard, Rev. Edwin P. Parker, Rev. George L. Walker, and Edward S. White were appointed a Building Committee, and an appropriation of \$200,000 was made to pay for erecting a new building—\$30,000 + 20,000 additional were afterwards appropriated for the furnishing of the school, making the actual cost of the new structure and its equipment, after deducting \$60,000 paid the town for insurance, \$190,000.

Following the public opinion most emphatically expressed, both in and out of the town meeting, Mr. George Keller, an accomplished architect of Hartford, prepared plans with a view to a fire-proof building, of but *two stories* in height, exclusive of the attic. To secure school-room enough, it was necessary to enlarge the area of the building, as the burnt structure was of three stories. Mr. Keller laid out his work on an area of 22,000 square feet, and on looking at his plans it is found that he has occupied no more space than was necessary. The corridors are twelve feet wide, there are five exits, and a spacious hall 100 by 64 feet in width. He has arranged the stairways in the most convenient manner, as well as the reception, cloak, and recitation rooms, and the scientific apartments. Convenience, readiness of access, light, ventilation, durability, and safety from fire or panic, have all been considered by the committee, and admirably accomplished by Mr. Keller. There are fifteen rooms on the first floor and thirteen on the second, with a room for draughting purposes in the attic, where five or six more rooms may be utilized when found necessary.

The new high school building measures on the ground 236 feet in length and averages 100 feet in width, covering over 22,000 square feet, which is over double the area of the old buildings as they stood before the fire. It is planned for a two story building, having seven of the class-rooms on the first floor and but three on the second floor, so that practically two-thirds of the pupils will occupy the first floor and but one-third the second floor. The class rooms on the second floor are intended for the members of the junior and senior classes, which comprise the older scholars attending the school. A glance at the plans explains the arrangements.



NEW HIGH SCHOOL BUILDING, ERECTED 1882-83.

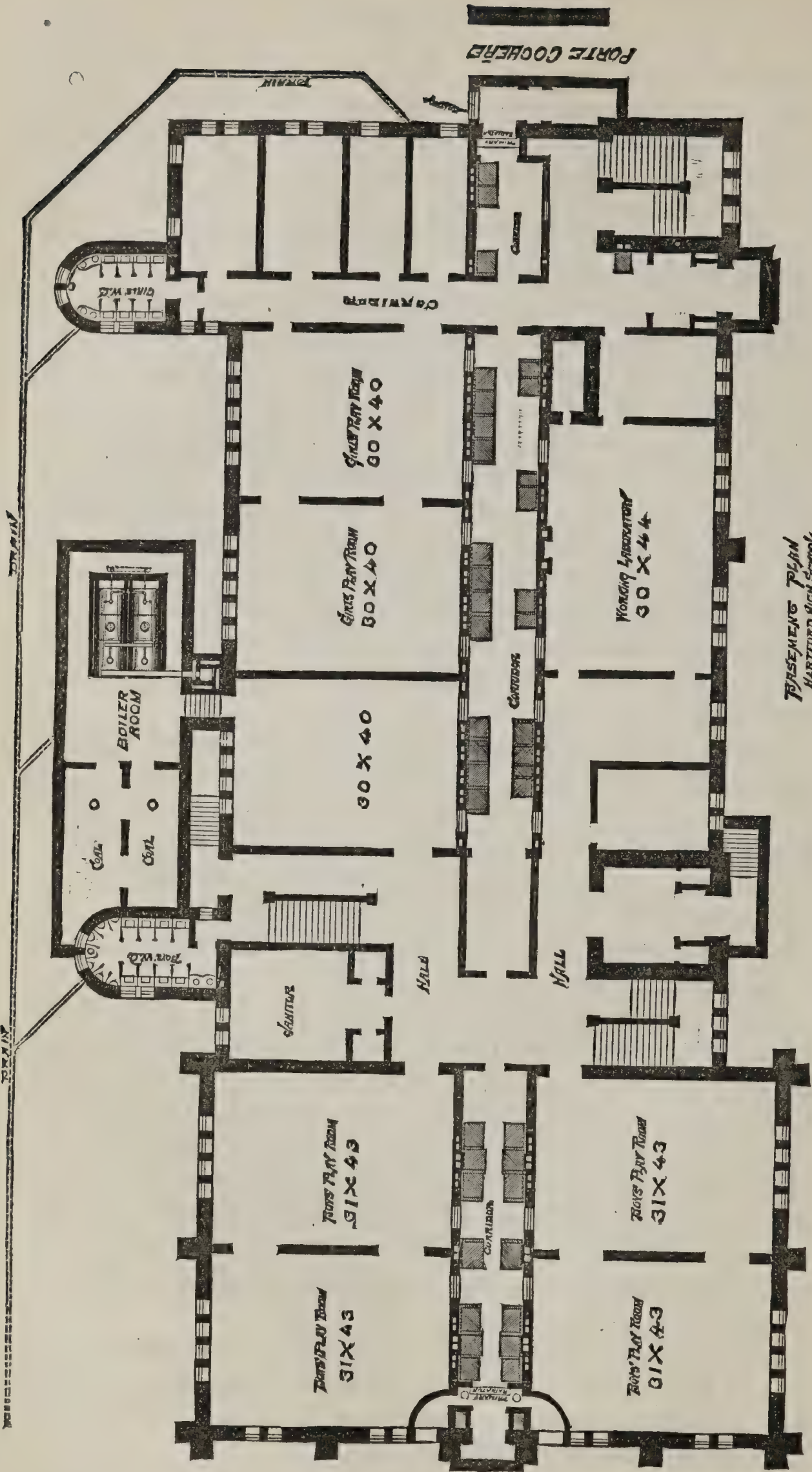
The building is designed in the Gothic style, is 236 feet in length with an average width of 100 feet. The walls are built up to the water-table of rock-faced brown stone, and above that of brick, faced with Philadelphia pressed brick, with brown stone caps and sills to the windows and other openings. The roofs are steep and slated. The height from floor to ceiling, in each story, is thirteen feet.

The ground floor shows a central corridor, twelve feet wide, running the whole length of the building from north to south. At the south end are placed four rooms for the fourth class scholars; two rooms on each side of the main corridor. The third class occupy three rooms adjoining each other on the west side of the building, and the reception, library, and senior recitation rooms occupy the principal part of the east front. The wardrobes for each class are arranged conveniently near each group of rooms, and the water-closets are planned *entirely outside the occupied part* of the building. Separate closets are provided level with each floor, so that the scholars are not obliged to descend or mount stairs to reach them. The boiler room is under ground, outside of the building.

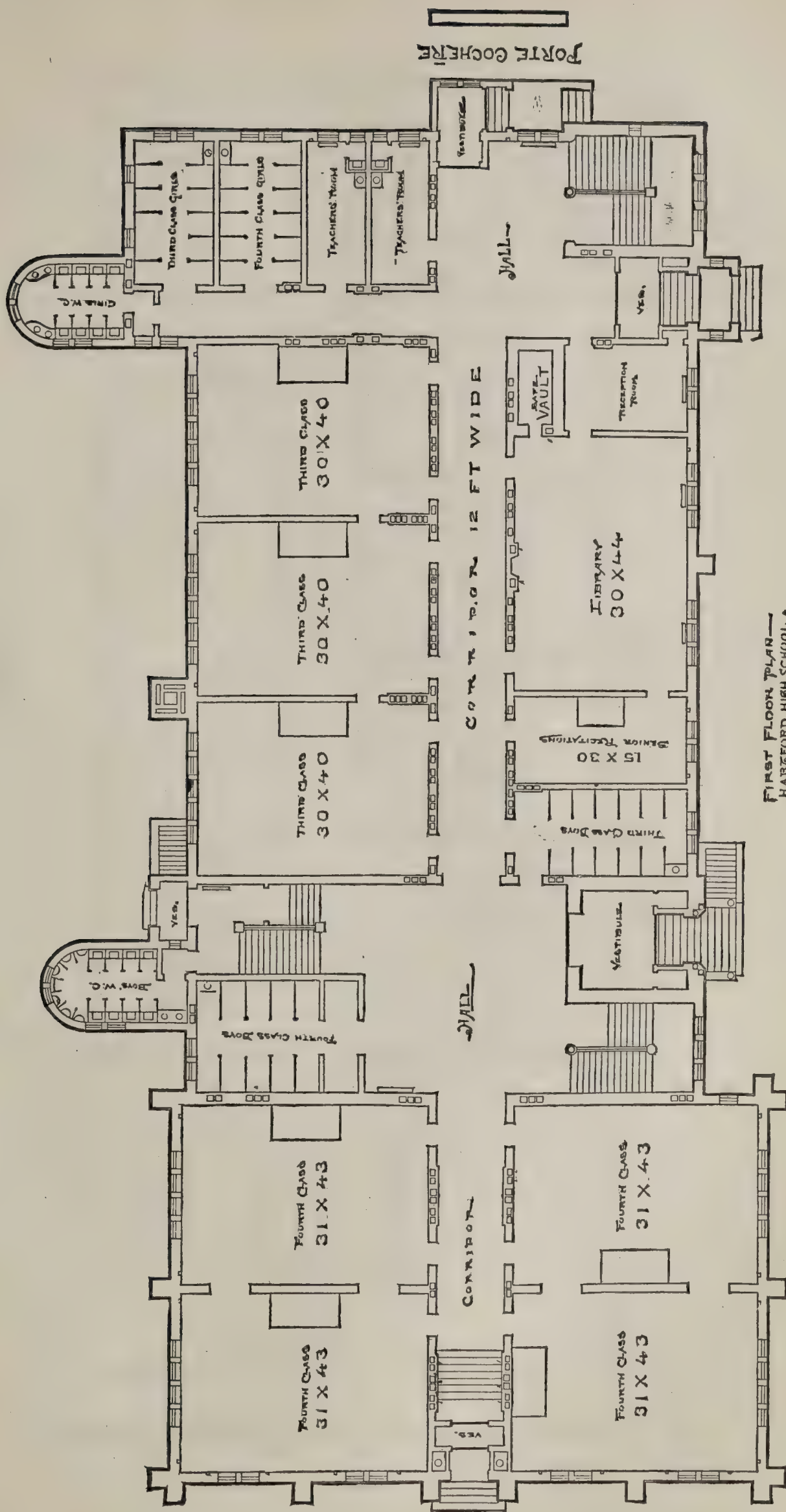
There are five exits from the building, two on the east, and one each on the north, south, and west sides; and three ample stone staircases lead by easy ascent to the second story. All the staircases are placed in the most convenient positions, yet so situated that the exercises in the different class-rooms are not disturbed by the noise of the scholars passing up and down the stairs. The clock tower, occupying the same position at the northeast angle as in the old building, contains one staircase.

On the second floor, immediately over the four rooms of the fourth class, at the south end of the building, is placed the large assembly hall, 64 by 100 feet. It is reached by two staircases, placed a few feet on each side of the large doors to the hall. Two junior class-rooms and the laboratory occupy the west side of the second floor, immediately over the third class-rooms below; and the senior class-room and recitation rooms are placed on the east side over the library and reception room of the first floor. The wardrobes, water-closets, etc., occupy corresponding positions to those on the first floor.

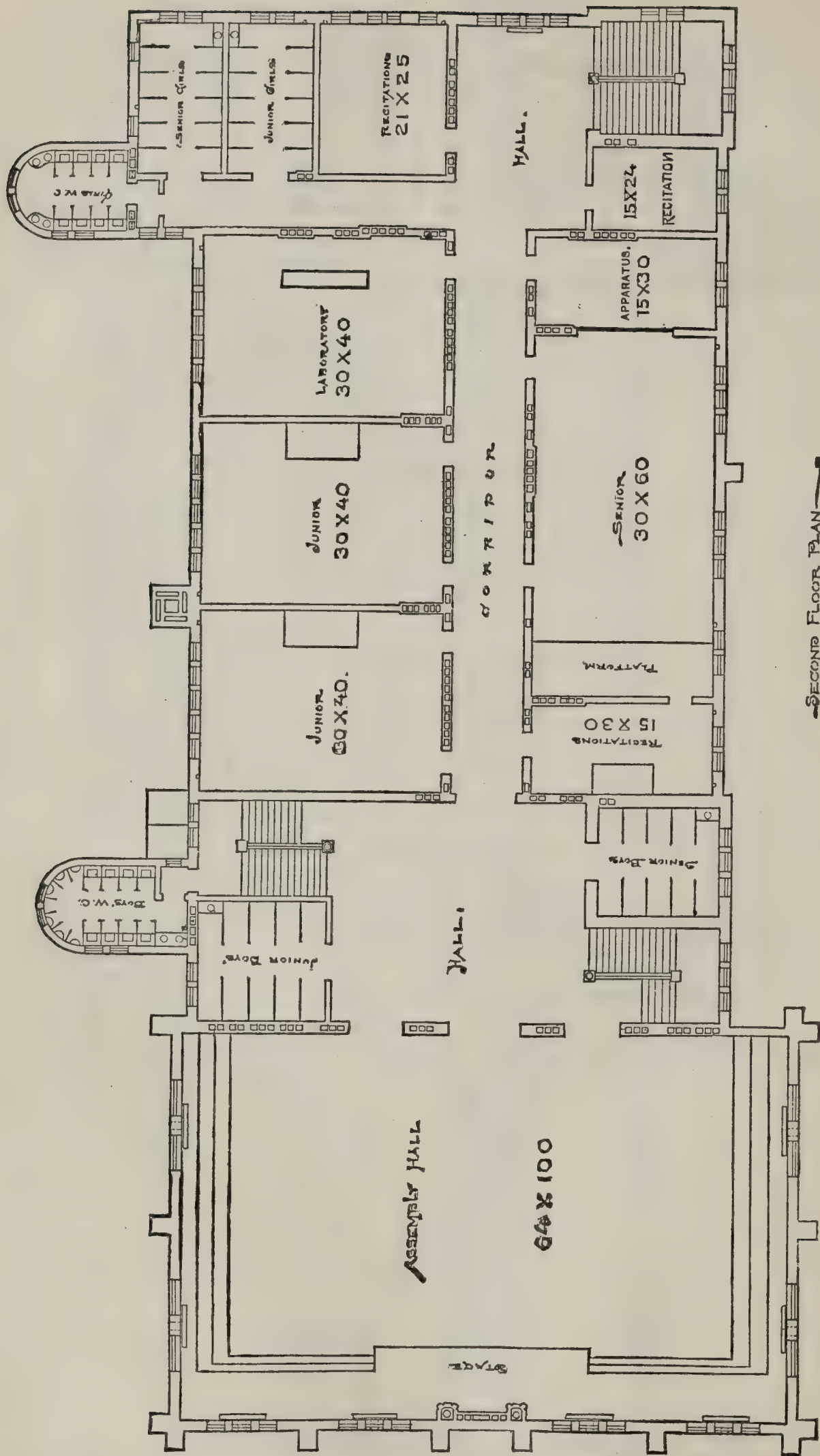
Advantage has been taken to arrange the senior wardrobe, so that its walls could be carried up and serve to support an observatory, instead of placing the observatory in the clock tower as was its position in the old building.



PERSIMMON PLAN
PERSIMMON HIGH SCHOOL



FIRST FLOOR PLAN—
HARBORD HIGH SCHOOL.



SECOND FLOOR PLAN
HARTFORD HIGH SCHOOL

THE WARMING AND VENTILATION.

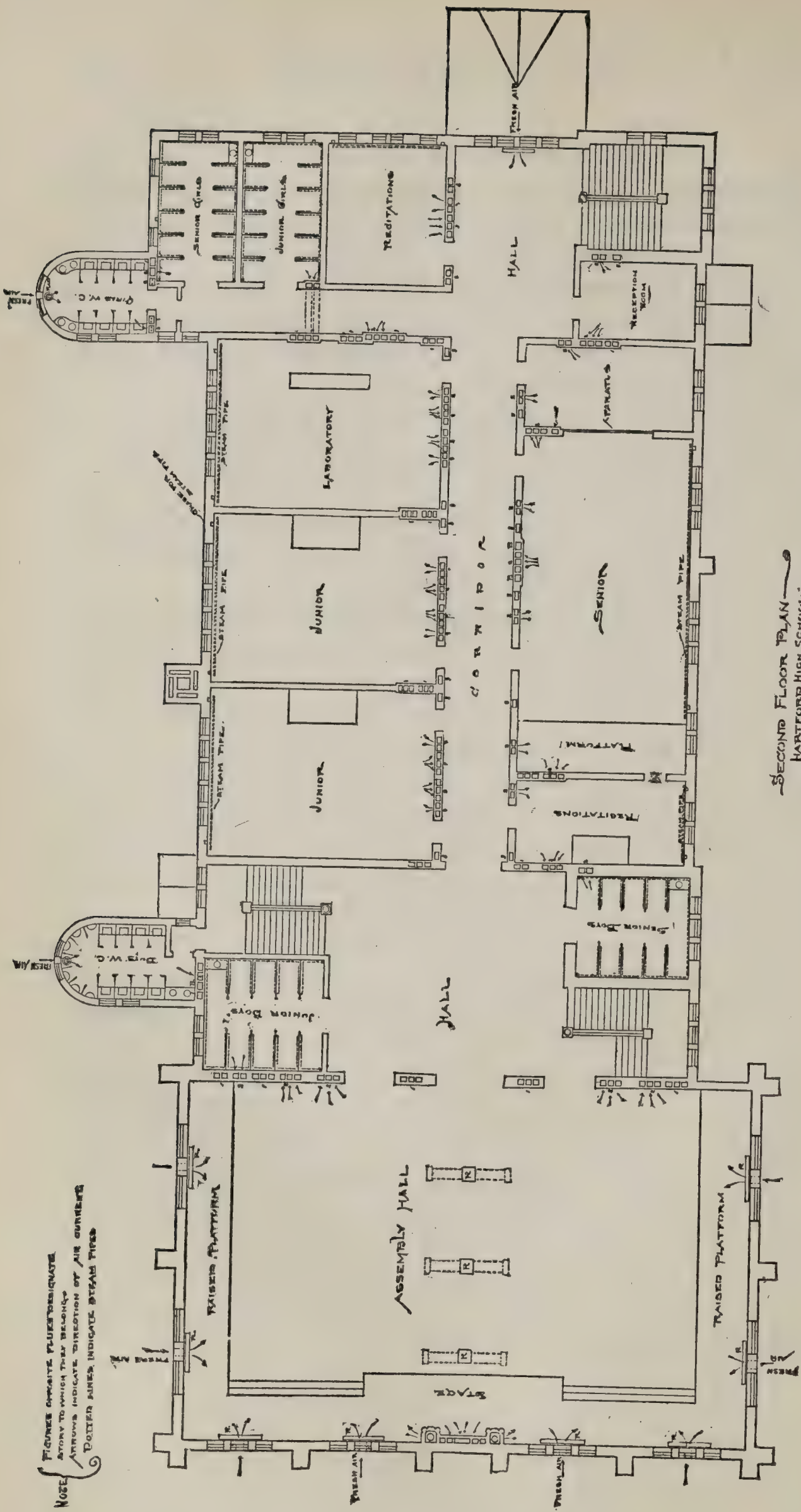
The arrangements for warming and ventilating the High School Building are similar to those planned by Charles B. Richards, civil engineer, of Philadelphia, and applied by Mr. Keller to the State Hospital for the Insane, at Middletown. The steam is supplied by boilers placed outside the building; the sewerage gases can in no way find access to the ventilating flues, and the water closets are ventilated by an independent system.

The building is two stories high, with an attic and basement. On the first floor there are seven class-rooms, and on the second floor there are four class-rooms and a large assembly hall. Each class-room contains between fifty and sixty scholars, and it is designed to ventilate each room with a supply of fresh air amounting to 30 cubic feet of air per minute for each scholar.

To accomplish this the arrangement for the introduction of air is to admit the fresh air after it has been adequately heated at an opening placed at the back or inner wall of each room, remote from the windows and cool outside walls, the effective cooling average surface of which—windows and walls—being as near equidistant from the point of admission of warm air as the form of the room will permit. This opening for the admission of warm air is placed about seven feet above the floor, so that the incoming current is not thrown upon any person standing near the opening. The direction of inflow will be made toward the windows, at the same time rising toward the ceiling. The warm air receives guidance from the outlet of the flue, and is also induced by the action of the windows and outside walls in demanding a greater or less supply of air for the downward currents against or near them.

The provision for the extraction of air is to withdraw the cooler and partially vitiated air from the surface of the floor through openings to flues placed as near the inner walls of the rooms as practicable. The cold sheet of air traversing the panes of glass is intercepted before it falls or follows the wall to the floor by a broad and level window seat which throws the air inward to mingle with the warmer air of the room. Supplementary steam pipes are run under the windows the whole width of the room, to counteract the cooling effect of the glass.

*Geo. Killes Healy
Hartford Conn*



NOTE: FIGURES OPPOSITE FLUENTS DESIGNATE STORIES TO WHICH THEY BELONG. ARROWS INDICATE DIRECTION OF AIR CURRENTS. DOTTED LINES INDICATE STEAM PIPES.

SECOND FLOOR PLAN—
HARTFORD HIGH SCHOOL—
SHOWING HEATING AND VENTILATION

Each room by itself and of itself, together with its inlet and outlet flues, is considered as one shaft or chimney. Such a shaft, starting as a flue at A, as shown in Diagram I, from an air chamber B, at the ground level, and having a small or limited sectional area, rises some height to an enlargement C, the room itself, the sectional area of the room being so out of proportion to that of the flue that the velocity of flow through it or the eddies occasioned by the flow may be imperceptible; and thence again to another flue D of limited section rising to and above the roof.

In order to make this "chimney" to draw, heat is supplied by radiators at the bottom, and during mild weather is further assisted by heat supplied to the outgoing flue above the room, either by gas jets or coils of steam pipe, as may be most suitable.



Diagram 1.

THE APPLICATION.

The High School is 236 feet long, running north and south, and averages 100 feet in width. It is divided almost in the middle by a twelve-foot wide corridor extending the whole length of the building from north to south. The different class-rooms, library, recitation-rooms, etc., open into this corridor on the right and left, so that the side walls of the corridors are also the inner walls to all the rooms. This arrangement admits of the introduction of the warm air to the different rooms of the building, at the end of the room farthest from the windows, by devoting the corridor in the basement for its whole length to an enclosed fresh-air duct, communicating by independent hot-air flues with each room. The fresh air is taken in at both ends, as shown on basement plan. (Plate I.) The fresh air passes through primary radiators placed at the ends of corridor, which temper the air before it comes in contact with the radiators placed at the mouth of each hot-air flue in the basement. Each of these hot-air flues is provided with an independent radiator through which the fresh air in the corridor passes and is warmed before it enters the flue to supply fresh warm air to the room above.

The temperature of the air admitted to the rooms above is regulated without reducing the quantity of fresh-air supply, in the following manner:

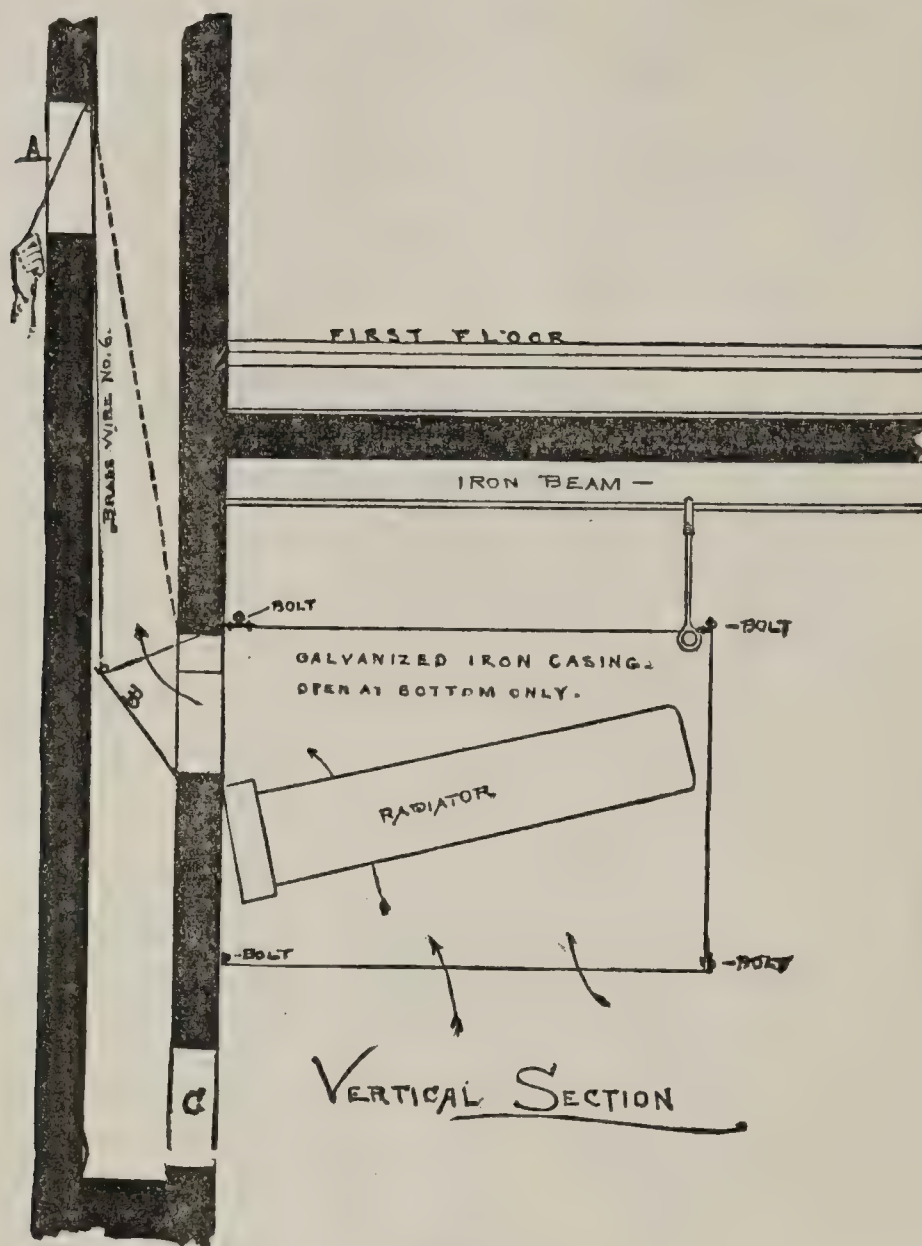
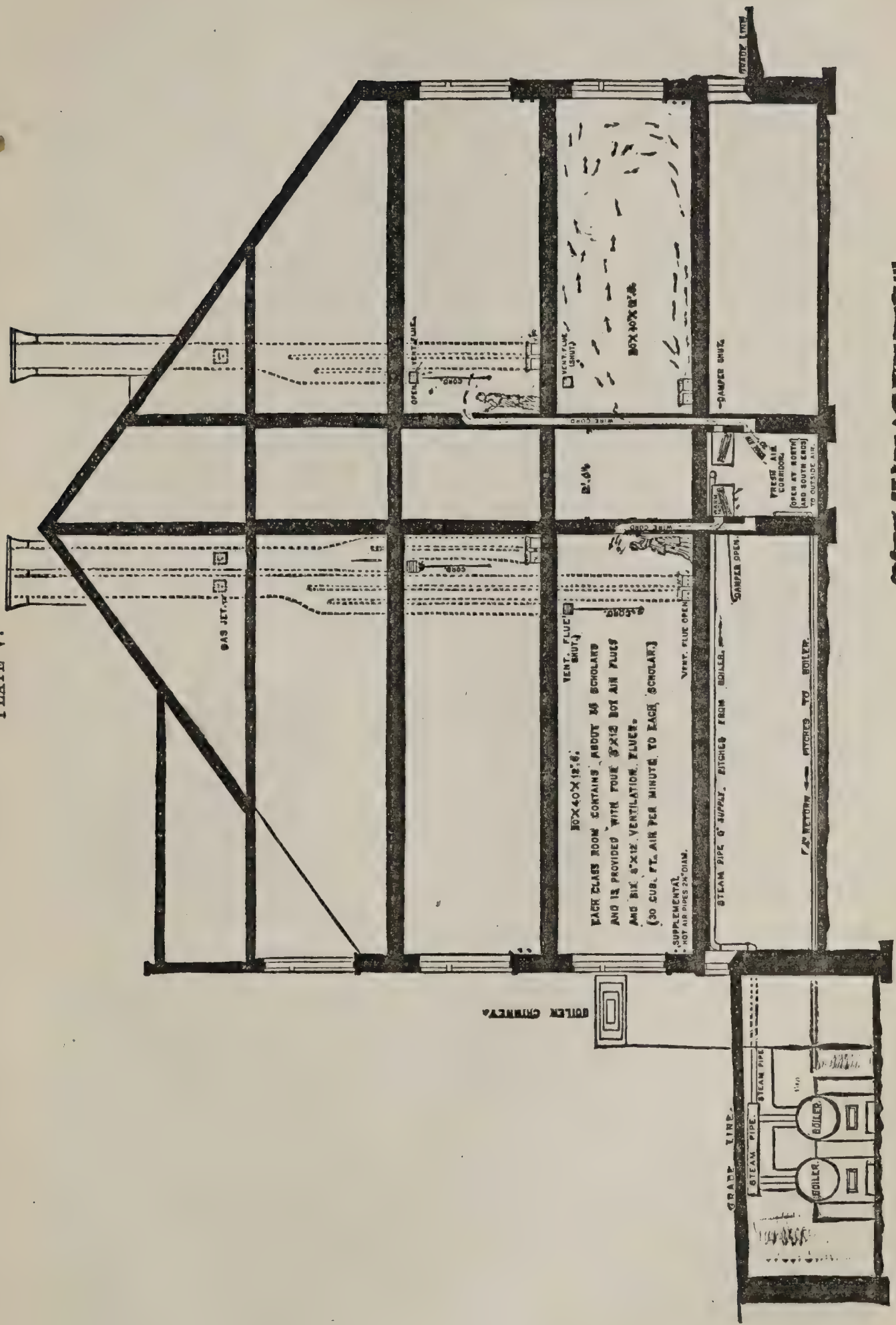


Diagram 2.

In an ordinary school room when the air becomes too warm the teacher causes the registers to be closed, which shuts off the heat and of course the ventilation at the same time. In the arrangement shown on Diagram 2, there is only a grating at A. The damper B is controlled from the school-room, and is so arranged that when it is open it admits the warm air to the flue, and when shut it admits cool air from the corridor through an opening into flue placed below radiators at C, and vice-versa.

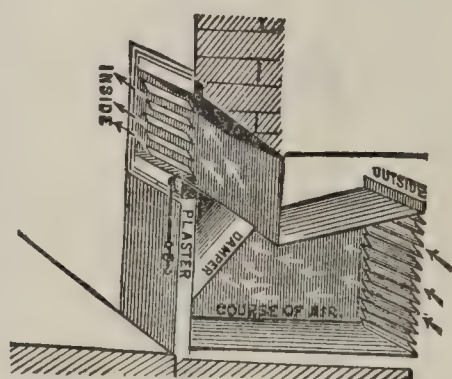
The damper can also be placed at any intermediate position so that the temperature of the admitted air at A can be regulated to any degree from 140° to 70° , and adjusted to that which is necessary to keep the room at 68° , or, as some prefer, 70° .

PLATE V.



Each scholar is supplied with 30 cubic feet of air per minute, and the provision for supplying fresh air and withdrawing vitiated air changes the atmosphere every 11 minutes in ordinary weather. Each class-room is supplied with fresh air as above described through four 8"x12" hot-air flues entering the class-rooms about seven feet above floor. Each class-room is also provided with six ventilation flues 8"x12" (Plate V.) placed in the cross walls, and as near the inner wall of the room as practicable. The openings to four of these ventilation flues are placed at the level of the floor and are constantly open, and the openings to the remaining two flues are placed just below the level of the ceiling, and are closed, except when the air in the room becomes overheated, when these registers are opened, allowing the overheated air to escape. As indicated on the ground plans, a continuous line of steam-pipe is run along the partitions in cloak rooms, close to the floor, so as to dry the clothing in wet weather. Ample ventilation flues are provided in each cloak room, and the doors are provided with open transoms above and are three inches from the floor at the bottom, thus admitting a free circulation of air.

The main corridors on first and second floors, and the large assembly hall on the second floor are provided with direct radiators in addition to the warm air supplied to them by the indirect radiators in the basement. There are eight of these direct radiators in the assembly hall, and they are placed under the window stools of the east, west, and south



Eureka Ventilator.

outside walls. Each direct radiator is supplied with fresh air through what is known in Boston as the "Eureka Ventilator," built in the outside wall immediately behind each radiator. These ventilators are provided with dampers so as to control the admission of fresh outside air, as shown by the accompanying illustration.

In addition to the ventilation flues elsewhere described, the assembly hall, which will accommodate over 1,100 persons, is to be provided with three of "Boyle's Patent Air Pump Ventilators" for the extraction of overheated and vitiated air. These are automatic ventilators placed on the ridge of the roof, and communicating through galvanized iron ducts with a large ventilating register opening in the ceiling of the assembly hall.

WILLIAM EWART GLADSTONE.

WILLIAM EWART GLADSTONE was born in Liverpool Dec. 29, 1809, educated at Eton, and Christ Church, Oxford, where he graduated in 1829, taking a double class in 1831. After traveling on the continent, he was returned to Parliament in 1832, and was in 1834 made a junior Lord of the Treasury, and in 1835 under Secretary for Colonial Affairs, by Sir Robert Peel. In the same year he retired from office with his leader, and returned with him in 1841 as Vice-President of the Board of Trade, and Master of the Mint. In this capacity he gave the explanation required of the commercial policy of the government and of the revived tariff in 1842. In 1843 he was made President of the Board of Trade, and in 1846, succeeded Lord Stanley as Secretary of State for the Colonies. In the following year he resigned, and in a few months he was elected member of the House for the University of Oxford, and in 1852 became Chancellor of the Exchequer. In 1855 he was in Parliament but out of office, until 1859, when he resumed office as Chancellor of the Exchequer, assisted in negotiating the commercial treaty with France, and aided the Oxford University Commissioners. He was rejected as member from Oxford in 1865, but was immediately returned for South Lancashire, and after the death of Lord Palmerston became leader in the House of Commons and Chancellor of the Exchequer under Lord Russell's administration. In 1866 he brought in a Reform Bill, and again in 1868, when he was successful. As Premier after 1868 he signalized his ministry by disestablishing the Irish Church, and inaugurating a new system of land tenure in Ireland.

Mr. Gladstone has kept up his classical studies, for which he was eminent at Eton and Oxford, and published an elaborate work on Homer. He maintains the classical side of the question of a modern curriculum for secondary and superior schools.

Classical Training, the Basis of a Liberal Education.

The relation of pure science, natural science, modern languages, modern history, and the rest, to the old classical training, ought to be founded on a principle, and that these competing branches of instruction ought not to be treated simply as importunate creditors that take one shilling in the pound to-day because they hope to get another shilling to-morrow, and in the meantime have a recognition of their title. This recognition of title is just what I would refuse; I deny their right to a parallel or equal position; their true position is ancillary; and as ancillary it ought to be limited and restrained without scruple as much as a regard to the paramount matter of education may dictate. But why, after all, is the classical training paramount? Is it because we find it established?

because it improves memory, or taste, or gives precision, or develops the faculty of speech? All these are but partial and fragmentary statements, so many narrow glimpses of a great and comprehensive truth. That truth I take to be, that the modern European civilization from the middle age downwards is the compound of two great factors, the Christian religion for the spirit of man, and the Greek (and in a secondary degree the Roman) discipline for his mind and intellect. St. Paul is the Apostle of the Gentiles, and is in his own person a symbol of this great wedding. The place, for example, of Aristotle and Plato in Christian education is not arbitrary, nor in principle mutable. The materials of what we call classical training were prepared, and we have a right to say were advisedly and providentially prepared, in order that it might become, not a mere adjunct, but (in mathematical phrase) the complement of Christianity in its application to the culture of the human being, as a being formed both for this world and the world to come.

If this principle be true, it is broad, and high, and clear enough; and it supplies a key to all questions connected with the relation between the classical training of our youth, and all other branches of their secular education. It must of course be kept within its proper place, and duly limited as to things and persons. It can only apply in full to that small proportion of the youth of any country who are to become in the fullest sense educated. It involves no extravagant or inconvenient assumptions concerning those who are to be educated for trades and professions, in which the necessities of specific training must more or less limit general culture. It leaves open every question turning upon individual aptitudes and inaptitudes; and by no means requires that boys without a capacity for imbibing any of the spirit of classical culture are still to be mechanically plied with the instruments of it after their unfitness in the particular subject matter has become manifest. But it lays down the rule of education for those who have no internal and no external disqualification; and that rule becoming a fixed and central point in the system, becomes also the point around which all others may be grouped.

Foreign Education—Home Travel. (Essay, 1788.)

Our honor as an independent nation is concerned in the establishment of literary institutions, adequate to all our own purposes; without sending our youth abroad, or depending on other nations for books and instructors. It is very little to the reputation of America to have it said abroad, that after the heroic achievements of the late war, these independent people are obliged to send to Europe for men and books to teach their children A B C.

But in another point of view, a foreign education is directly opposite to our political interests, and ought to be discountenanced, if not prohibited.

Every person of common observation will grant, that most men prefer the manners and the government of that country where they were educated. Let ten American youths be sent, each to a different European kingdom, and live there from the age of twelve to twenty, and each will give the preference to the country where he has resided.

The period from twelve to twenty is the most important in life. The impressions made before that period are commonly effaced; those that are made during that period *always* remain for many years, and *generally* through life.

Ninety-nine persons of a hundred who pass that period in England or France, will prefer the people, their manners, their laws, and their government, to those of their native country. Such attachments are injurious, both to the happiness of the men, and to the political interests of their own country. As to private happiness, it is universally known how much pain a man suffers by a change of habits in living. The customs of Europe are and ought to be different from ours; but when a man has been bred in one country, his attachments to its manners make them, in a great measure, necessary to his happiness. On changing his residence, he must therefore break his former habits, which is always a painful sacrifice; or the discordance between the manners of his own country, and his habits, must give him incessant uneasiness; or he must introduce, into a circle of his friends, the manners in which he was educated. These consequences may follow, and the last, which is inevitable, is a public injury. The refinement of manners in every country should keep pace exactly with the increase of its wealth; and perhaps the greatest evil America now feels is, an improvement of taste and manners which its wealth can not support.

A foreign education is the very source of this evil; it gives young gentlemen of fortune a relish for manners and amusements which are not suited to this country; which, however, when introduced by this class of people, will always become fashionable.

But a corruption of manners is not the sole objection to a foreign education: An attachment to a *foreign* government, or rather a want of attachment to our *own*, is the natural effect of a residence abroad during the period of youth. It is recorded of one of the Greek cities, that in a treaty with their conquerors, it was required that they should give a certain number of *male children* as hostages for the fulfillment of their engagements. The Greeks absolutely refused, on the principle that these children would imbibe the ideas and embrace the manners of foreigners, or lose their love for their own country: but they offered the same number of *old* men without hesitation. This anecdote is full of good sense. A man should always form his habits and attachments in the country where he is to reside for life. When these habits are formed, young men may travel without danger of losing their patriotism. A boy who lives in England

form twelve to twenty, will be an *Englishman* in his manners and his feelings; but let him remain at home until he is twenty, and form his attachments, he may then be several years abroad, and still be an *American*.* There may be exceptions to this observation; but living examples prove the truth of the general principle here advanced, respecting the influence of habit.

It may be said that foreign universities furnish much better opportunities of improvement in the sciences than the American. This may be true, and yet it will not justify the practice of sending young lads from their own country. There are some branches of science which may be studied to much greater advantage in Europe than in America, particularly chemistry. When these are to be acquired, young gentlemen ought to spare no pains to attend the best professors. It may, therefore, be useful, in some cases, for students to cross the Atlantic to *complete* a course of studies; but it is not necessary for them to go early in life, nor to continue a long time. Such instances need not be frequent even now; and the necessity for them will diminish in proportion to the future advancement of literature in America.

A tour through the United States ought to be considered as a necessary part of a liberal education. Instead of sending young gentlemen to Europe to view curiosities and learn vices and follies, let them spend twelve or eighteen months in examining the local situation of the different States; the rivers, the soil, the population, the improvements and commercial advantages of the whole; with an attention to the spirit and manners of the inhabitants, their laws, local customs, and institutions. Such a tour should at least precede a tour to Europe; for nothing can be more ridiculous than a man traveling in a foreign country for information, when he can give no account of his own. When, therefore, young gentlemen have finished an academic education, let them travel through America, and afterward to Europe, if their time and fortunes will permit. But if they can not make a tour through both, that in America is certainly to be preferred; for the people of America, with all their information, are yet extremely ignorant of the geography, policy, and manners of their neighboring States. Except a few gentlemen whose public employments in the army and in Congress, have extended their knowledge of America, the people in this country, even of the higher classes, have not so correct information respecting the United States, as they have respecting England or France. Such ignorance is not only disgraceful, but is materially prejudicial to our political friendships and federal operations.

* Cicero was twenty-eight years old when he left Italy to travel in Greece and Asia. 'He did not stir abroad,' says Dr. Middleton, 'till he had completed his education at home; for nothing can be more pernicious to a nation than the necessity of a foreign one.'—*Life of Cicero*, vol. I. p. 48.

Dr. Moore makes a remark precisely in point. Speaking of a foreign education, proposed by a certain Lord, who objected to the public schools in England, he says, 'I have attended to his Lordship's objections, and after due consideration, and weighing every circumstance, I remain of opinion, that no country but Great Britain is proper for the education of a British subject, who proposes to pass his life in his own country. The most important point, in my mind, to be secured in the education of a young man of rank of our country, is to make him an Englishman; and this can be done no where so effectually as in England.' See his *View of Society and Manners*, &c., vol. i., page 197, where the reader will find many judicious remarks upon this subject. The following are too pertinent to be omitted:—'It is thought, that by an early foreign education all ridiculous English prejudices will be avoided. This may be true; but other prejudices, perhaps as ridiculous, and much more detrimental, will be formed. The first can not be attended with many inconveniences; the second may render the young people unhappy in their own country when they return, and disagreeable to their countrymen all the rest of their lives.'

CONDUCT OF THE UNDERSTANDING.

BY JOHN LOCKE.

I. INTRODUCTION.

THE last resort a man has recourse to in the conduct of himself is his understanding ; for though we distinguish the faculties of the mind, and give the supreme command to the will as to an agent, yet the truth is, the man which is the agent determines himself to this or that voluntary action upon some precedent knowledge, or appearance of knowledge, in the understanding. No man ever sets himself about anything but upon some view or other which serves him for a reason for what he does : and whatsoever faculties he employs, the understanding, with such light as it has, well or ill informed, constantly leads ; and by that light, true or false, all his operative powers are directed.¹ The will itself, how absolute and uncontrollable soever it may be thought, never fails in its obedience to the dictates of the understanding. Temples have their sacred images, and we see what influence they have always had over a great part of mankind. But in truth the ideas and images in men's minds are the invisible powers that constantly govern them, and to these they all universally pay a ready submission. It is therefore of the highest concernment that great care should be taken of the understanding, to conduct it right in the search of knowledge and in the judgments it makes.

¹ Essay on the Human Understanding, Bk. II. ch. 21, § 29: 'The Will is nothing but a power in the Mind to direct the operative faculties of a man to motion or rest. To the question, What is it determines the Will? the true and proper answer is, The Mind. For that which determines the general power of directing to this or that particular direction, is nothing but the agent itself exercising the power it has that particular way. If this answer satisfies not, 't is plain the meaning of the question, What determines the Will? is this, What moves the Mind, in every particular instance, to determine its general power of directing to this or that particular motion or rest? And to this I answer, The motive for continuing in the same state or action is only the present Satisfaction in it: the motive to change is always some Uneasiness; nothing setting us upon the change of state, or upon any new action, but some Uneasiness. This is the great motive that works on the Mind to put it upon action, which for shortness' sake we will call determining of the Will.' Locke's theory of volition seems, in brief, to be this: something, suggested by desire in the first instance, is regarded, on reflection, by the understanding as desirable; this motive, as it may be called, produces uneasiness; the uneasiness determines the will, and the will, thus directed, results in action.

The logic now in use has so long possessed the chair, as the only art taught in the schools for the direction of the mind in the study of the arts and sciences, that it would perhaps be thought an affectation of novelty to suspect that rules that have served the learned world these two or three thousand years,¹ and which, without any complaint of defects, the learned have rested in, are not sufficient to guide the understanding. And I should not doubt but this attempt would be censured as vanity or presumption, did not the great Lord Verulam's² authority justify it; who, not servilely thinking learning could not be advanced beyond what it was, because for many ages it had not been, did not rest in the lazy approbation and applause of what was, because it was, but enlarged his mind to what might be. In his Preface to his *Novum Organum*, concerning logic he pronounces thus:³ *Qui summas dialecticae partes tribuerunt atque inde fidissima scientiis praesidia comparari putarunt, verissime et optime viderunt intellectum humanum sibi permissum merito suspectum esse debere. Verum infirmior omnino est malo medicina; nec ipsa mali expers. Siquidem dialectica quae recepta est, licet ad civilia et artes quae in sermone et opinione positae sunt rectissime adhibeatur, naturae tamen subtilitatem longo intervallo non attingit; et prensando quod non capit, ad errores potius stabiliendos et quasi figendos quam ad viam veritati aperiendam valuit.*

'They,' says he, 'who attributed so much to logic, perceived very well and truly, that it was not safe to trust the understanding to itself, without the guard of any rules. But the remedy reached not the evil; but became a part of it [*evil itself*]: for the logic which took place [*in common use*], though it might do well enough in civil affairs and the arts which consisted in talk and opinion, yet comes very far short of subtilty in the real performances of nature, and, catching at what it cannot reach, has served to confirm and establish errors, rather than to open a way to truth.' And therefore a little after he says, 'That it is absolutely necessary that a better and perfecter use and employment of the mind and understanding

¹ The date of Aristotle, from whom the scholastic logic was, with certain additions and modifications, derived, is the fourth century before Christ. He was born not earlier than 392 B. C., nor later than 384 B. C. He died in 322 B. C. But many traces of his logical doctrine are already to be found in Plato, and some may be carried back even as far as Zeno the Eleatic, who is said to have been born about 488 B. C.

² Francis Bacon, b. 1560-1, d. 1626, who was created Baron Verulam, and subsequently Viscount St. Alban. He is commonly, but inaccurately, called Lord Bacon.

³ This passage is to be found, not in the preface to the *Novum Organum*, but in that to the *Instauratio Magna* generally, of which great, but unfinished, undertaking the *Novum Organum* was designed to be the second part. This preface, with other small pieces, was, however, published along with the *Novum Organum*.

should be introduced.' *Necessario requiritur ut melior et perfectior mentis et intellectus humani usus et adoperatio introducatur.*

II. PARTS.

There is, it is visible, great variety in men's understandings, and their natural constitutions put so wide a difference between some men in this respect, that art and industry would never be able to master; and their very natures seem to want a foundation to raise on it that which other men easily attain unto. — Amongst men of equal education there is great inequality of parts. And the woods of America, as well as the schools of Athens, produce men of several abilities in the same kind. Though this be so, yet I imagine most men come very short of what they might attain unto in their several degrees by a neglect of their understandings. A few rules of logic are thought sufficient in this case for those who pretend to the highest improvement; whereas I think there are a great many natural defects in the understanding capable of amendment, which are overlooked and wholly neglected. And it is easy to perceive that men are guilty of a great many faults in the exercise and improvement of this faculty of the mind, which hinder them in their progress and keep them in ignorance and error all their lives. Some of them I shall take notice of, and endeavor to point out proper remedies for in the following discourse.

III. REASONING.

Besides the want of determined ideas, and of sagacity and exercise in finding out and laying in order intermediate ideas, there are three miscarriages that men are guilty of in reference to their reason, whereby this faculty is hindered in them from that service it might do and was designed for. And he that reflects upon the actions and discourses of mankind, will find their defects in this kind very frequent and very observable.

1. The first is of those who seldom reason at all, but do and think according to the example of others, whether parents, neighbors, ministers, or who else they are pleased to make choice of to have an implicit faith in, for the saving of themselves the pains and trouble of thinking and examining for themselves.

2. The second is of those who put passion in the place of reason, and, being resolved that shall govern their actions and arguments, neither use their own nor hearken to other people's reason, any farther than it suits their humor, interest, or party; and these one

may observe commonly content themselves with words which have no distinct ideas to them, though, in other matters, that they come with an unbiased indifferency to, they want not abilities to talk and hear reason, where they have no secret inclination that hinders them from being tractable to it.

3. The third sort is of those who readily and sincerely follow reason, but, for want of having that which one may call *large, sound, round-about sense*, have not a full view of all that relates to the question and may be of moment to decide it. We are all shortsighted, and very often see but one side of a matter; our views are not extended to all that has a connection with it. From this defect I think no man is free. We see but in part, and we know but in part, and therefore it is no wonder we conclude not right from our partial views. This might instruct the proudest esteemer of his own parts, how useful it is to talk and consult with others, even such as come short of him in capacity, quickness, and penetration: for since no one sees all, and we generally have different prospects of the same thing, according to our different, as I may say, positions to it, it is not incongruous to think, nor beneath any man to try, whether another may not have notions of things which have escaped him, and which his reason would make use of if they came into his mind. The faculty of reasoning seldom or never deceives those who trust to it; its consequences from what it builds on are evident and certain, but that which it oftenest, if not only, misleads us in is that the principles from which we conclude, the grounds upon which we bottom our reasoning, are but a part, something is left out which should go into the reckoning to make it just and exact. Here we may imagine a vast and almost infinite advantage that angels and separate spirits may have over us; who, in their several degrees of elevation above us, may be endowed with more comprehensive faculties, and some of them perhaps have perfect and exact views of all finite beings that come under their consideration, can, as it were, in the twinkling of an eye, collect together all their scattered and almost boundless relations. A mind so furnished, what reason has it to acquiesce in the certainty of its conclusions!

In this we may see the reason why some men of study and thought, that reason right and are lovers of truth, do make no great advances in their discoveries of it. Error and truth are uncertainly blended in their minds; their decisions are lame and defective, and they are very often mistaken in their judgments: the reason whereof is, they converse but with one sort of men, they

read but one sort of books, they will not come in the hearing but of one sort of notions ;¹ the truth is, they canton out to themselves a little Goshen in the intellectual world, where light shines, and, as they conclude, day blesses them ; but the rest of that vast *Expansum* they give up to night and darkness, and so avoid coming near it. They have a petty traffic with known correspondents in some little creek ; within that they confine themselves, and are dexterous managers enough of the wares and products of that corner with which they content themselves, but will not venture out into the great ocean of knowledge, to survey the riches that nature hath stored other parts with, no less genuine, no less solid, no less useful, than what has fallen to their lot in the admired plenty and sufficiency of their own little spot, which to them contains whatsoever is good in the universe. Those who live thus mewed up within their own contracted territories, and will not look abroad beyond the boundaries that chance, conceit, or laziness has set to their inquiries, but live separate from the notions, discourses, and attainments of the rest of mankind, may not amiss be represented by the inhabitants of the Marian Islands ;² who, being separated by a large tract of sea from all communion with the habitable parts of the earth, thought themselves the only people of the world. And though the straitness of the conveniences of life amongst them had never reached so far as to the use of fire, till the Spaniards, not many years since, in their voyages from Acapulco to Manila brought it amongst them ; yet in the want and ignorance of almost all things, they looked upon themselves, even after that the Spaniards had brought amongst them the notice of variety of nations abounding in sciences, arts, and conveniences of life, of which they knew nothing, they looked upon themselves, I say, as the happiest and

¹ Bacon, *Novum Organum*, Bk. I. Aph. 54 : 'Adamant homines scientias et contemplationes particulares ; aut quia auctores et inventores se earum credunt ; aut quia plurimum in illis operae posuerunt, iisque maxime assueverunt. Hujusmodi vero homines, si ad philosophiam et contemplationes universales se contulerint, illas ex prioribus phantasiis detorquent et corrumpunt.' He then goes on to exemplify this 'idol of the den' in Aristotle, 'qui naturalem suam philosophiam logicae suae prorsus mancipavit,' in the Alchemists, and in Gilbert, who is charged with having subordinated the whole of his system to magnetism.

² Properly the Marianne or Ladrone Islands. These, to the number of about twenty, lie in the North Pacific Ocean, between the 13th and 21st degrees of N. lat. and the 144th and 146th of E. long. They were originally discovered in 1521, by Magellan, who called them *Las Islas de las Ladrone*, or the Isles of Thieves, on account of the thievish propensities of their inhabitants. They were subsequently called the Mariana or Marianne Islands from Mary Ann of Austria, queen of Spain, at whose expense Christian missionaries were sent over for their conversion. The statements made by Locke will be found in Martinière's *Dictionnaire Géographique et Critique*. When Magellan set fire, as a punishment, to some of their huts and trees, the islanders are said to have taken the fire for an animal, devouring its prey.

wisest people of the universe. But for all that, nobody, I think, will imagine them deep naturalists, or solid metaphysicians; nobody will deem the quickest-sighted amongst them to have very enlarged views in ethics or politics, nor can any one allow the most capable amongst them to be advanced so far in his understanding as to have any other knowledge but of the few little things of his and the neighboring islands within his commerce, but far enough from that comprehensive enlargement of mind which adorns a soul devoted to truth, assisted with letters, and a free consideration of the several views and sentiments of thinking men of all sides. Let not men therefore that would have a sight of, what every one pretends to be desirous to have a sight of, truth in its full extent, narrow and blind their own prospect. Let not men think there is no truth but in the sciences that they study, or the books that they read. To prejudge other men's notions before we have looked into them is not to show their darkness, but to put out our own eyes. *Try all things, hold fast that which is good,*¹ is a divine rule coming from the Father of light and truth; and it is hard to know what other way men can come at truth, to lay hold of it, if they do not dig and search for it as for gold and hid treasure [*Prov. ii. 4*]; but he that does so must have much earth and rubbish before he gets the pure metal; sand, and pebbles, and dross usually lie blended with it, but the gold is nevertheless gold, and will enrich the man that employs his pains to seek and separate it. Neither is there any danger he should be deceived by the mixture. Every man carries about him a touchstone, if he will make use of it, to distinguish substantial gold from superficial glitterings, truth from appearances. And indeed the use and benefit of this touchstone, which is natural reason, is spoiled and lost only by assumed prejudices, overweening presumption, and narrowing our minds. The want of exercising it, in the full extent of things intelligible, is that which weakens and extinguishes this noble faculty in us. Trace it, and see whether it be not so. The day laborer in a country village has commonly but a small pittance of knowledge, because his ideas and notions have been confined to the narrow bounds of a poor conversation and employment; the low mechanic of a country town does somewhat outdo him; porters and cobblers of great cities surpass them. A country gentleman, who, leaving Latin and

¹ 1 Thess. v. 21. In the English version 'prove all things.' The Greek word is δοκιμάζετε. The Apostle does not use these expressions in the same general sense as that in which Locke applies them, but is referring specially to χαρίσματα, spiritual gifts, real or assumed.

Learning in the university, removes thence to his mansion-house, and associates with neighbors of the same strain, who relish nothing but hunting and a bottle; with those alone he spends his time, with those alone he converses, and can away with no company whose discourse goes beyond what claret and dissoluteness inspire. Such a patriot, formed in this happy way of improvement, cannot fail, as we see, to give notable decisions upon the bench at quarter sessions, and eminent proofs of his skill in politics, when the strength of his purse and party have advanced him to a more conspicuous station. To such a one truly an ordinary coffee-house gleaner of the city is an errant [*thorough*] statesman, and as much superior to, as a man conversant about Whitehall and the court is to an ordinary shopkeeper. To carry this a little farther. Here is one muffled up in the zeal and infallibility of his own sect, and will not touch a book or enter into debate with a person that will question any of those things which to him are sacred. Another surveys our differences in religion with an equitable and fair indifference, and so finds probably that none of them are in everything unexceptionable. These divisions and systems were made by men, and carry the mark of fallible on them; and in those whom he differs from, and, till he opened his eyes, had a general prejudice against, he meets with more to be said for a great many things than before he was aware of, or could have imagined. Which of these two now is most likely to judge right in our religious controversies, and to be most stored with truth, the mark all pretend to aim at? All these men that I have instanced in, thus unequally furnished with truth and advanced in knowledge, I suppose of equal natural parts; all the odds between them has been the different scope that has been given to their understandings to range in, for the gathering up of information, and furnishing their heads with ideas, notions, and observations, whereon to employ their minds and form their understandings.

It will possibly be objected, Who is sufficient for all this? I answer, more than can be imagined. Every one knows what his proper business is, and what, according to the character he makes of himself, the world may justly expect of him; and to answer that, he will find he will have time and opportunity enough to furnish himself, if he will not deprive himself by a narrowness of spirit of those helps that are at hand. I do not say to be a good geographer that a man should visit every mountain, river, promontory, and creek upon the face of the earth, view the buildings, and survey the

land everywhere, as if he were going to make a purchase. But yet every one must allow that he shall know a country better that makes often sallies into it, and traverses it up and down, than he that like a mill horse goes still round in the same track, or keeps within the narrow bounds of a field or two that delight him. He that will inquire out the best books in every science, and inform himself of the most material authors of the several sects of philosophy and religion, will not find it an infinite work to acquaint himself with the sentiments of mankind concerning the most weighty and comprehensive subjects. Let him exercise the freedom of his reason and understanding in such a latitude as this, and his mind will be strengthened, his capacity enlarged, his faculties improved; and the light, which the remote and scattered parts of truth will give to one another, will so assist his judgment, that he will seldom be widely out, or miss giving proof of a clear head and a comprehensive knowledge. At least, this is the only way I know to give the understanding its due improvement to the full extent of its capacity, and to distinguish the two most different things I know in the world, a logical chicaner from a man of reason. Only, he that would thus give the mind its flight, and send abroad his inquiries into all parts after truth, must be sure to settle in his head determined ideas of all that he employs his thoughts about, and never fail to judge himself, and judge unbiasedly of all that he receives from others, either in their writings or discourses. Reverence or prejudice must not be suffered to give beauty or deformity to any of their opinions.

IV. PRACTICE AND HABITS.

We are born with faculties and powers capable almost of anything, such at least as would carry us farther than can easily be imagined: but it is only the exercise of those powers which gives us ability and skill in anything, and leads us towards perfection.

A middle-aged ploughman will scarce ever be brought to the carriage and language of a gentleman, though his body be as well proportioned, and his joints as supple, and his natural parts not any way inferior. The legs of a dancing-master and the fingers of a musician fall as it were naturally, without thought or pains, into regular and admirable motions. Bid them change their parts, and they will in vain endeavor to produce like motions in the members not used to them, and it will require length of time and long practice to attain but some degrees of a like ability. What incred-

ible and astonishing actions do we find rope-dancers and tumblers bring their bodies to; not but that sundry in almost all manual arts are as wonderful; but I name those which the world takes notice of for such, because on that very account they give money to see them. All these admired motions beyond the reach, and almost the conception, of unpractised spectators are nothing but the mere effects of use and industry in men, whose bodies have nothing peculiar in them from those of the amazed lookers-on.

As it is in the body, so it is in the mind; practice makes it what it is, and most even of those excellences which are looked on as natural endowments will be found, when examined into more narrowly, to be the product of exercise, and to be raised to that pitch only by repeated actions. Some men are remarked for pleasantness in raillery; others for apologues and apposite diverting stories. This is apt to be taken for the effect of pure nature, and that the rather, because it is not got by rules, and those who excel in either of them never purposely set themselves to the study of it as an art to be learnt. But yet it is true that at first some lucky hit, which took with somebody and gained him commendation, encouraged him to try again, inclined his thoughts and endeavors that way, till at last he insensibly got a facility in it without perceiving how; and that is attributed wholly to nature which was much more the effect of use and practice. I do not deny that natural disposition may often give the first rise to it; but that never carries a man far without use and exercise, and it is practice alone that brings the powers of the mind as well as those of the body to their perfection.¹ Many a good poetic vein is buried under a trade, and never produces anything for want of improvement. We see the ways of discourse and reasoning are very different, even concerning the same matter, at court and in the university. And he that will go but from Westminster Hall to the Exchange, will find a different genius and turn in their ways of talking, and yet one cannot think that all whose lot fell in the city were born with different parts from those who were bred at the university or inns of court.

To what purpose all this, but to show that the difference, so observable in men's understandings and parts, does not arise so much from their natural faculties as acquired habits. He would be laughed at that should go about to make a fine dancer out of a country hedger, at past fifty. And he will not have much better

¹ This is a very common topic with moralists and psychologists. The readers of Aristotle will be reminded of several places in *Eth. Nic.*, Bk. II., especially ch. 1.

success, who shall endeavor at that age to make a man reason well, or speak handsomely, who has never been used to it, though you should lay before him a collection of all the best precepts of logic or oratory. Nobody is made anything by hearing of rules, or laying them up in his memory; practice must settle the habit of doing without reflecting on the rule, and you may as well hope to make a good painter or musician extempore by a lecture and instruction in the arts of music and painting, as a coherent thinker or strict reasoner by a set of rules, showing him wherein right reasoning consists.¹

This being so, that defects and weakness in men's understandings, as well as other faculties, come from want of a right use of their own minds, I am apt to think the fault is generally mislaid upon nature, and there is often a complaint of want of parts, when the fault lies in want of a due improvement of them. We see men frequently dexterous and sharp enough in making a bargain, who, if you reason with them about matters of religion, appear perfectly stupid.

V. IDEAS.

I will not here, in what relates to the right conduct and improvement of the understanding, repeat again the getting clear and determined ideas,² and the employing our thoughts rather about them

¹ Both here and in the *Thoughts concerning Education*, Locke undoubtedly undervalues the importance of rhetorical and logical rules, as offering guidance for effective speaking or correct reasoning, and contributing to protect the mind from the influence of sophisms. The passage (§ 188) in the *Thoughts concerning Education* may be compared with that in the text.

² 'Rhetoric and Logic, being the arts that in the ordinary method usually follow immediately after grammar, it may perhaps be wondered that I have said so little of them. The reason is, because of the little advantage young people receive by them. For I have seldom or never observed any one to get the skill of reasoning well or speaking handsomely, by studying those rules which pretend to teach it. And therefore I would have a young gentleman take a view of them in the shortest systems could be found, without dwelling long on the contemplation and study of those formalities. Right Reasoning is founded on something else than the Predicaments and Predicables, and does not consist in talking in Mode and Figure itself. But it is beside my present business to enlarge upon this speculation. To come therefore to what we have in hand: if you would have your son reason well, let him read Chillingworth; and if you would have him speak well, let him be conversant in Tully, to give him the true idea of eloquence; and let him read those things that are well writ in English, to perfect his style in the purity of our language.'

The reader who wishes to see a defence of logical rules against the attacks of Locke and others may consult Mill's *Logic*, Introduction, §§ 5, 6, and Bk. III. ch. 9, § 3; also Fowler's *Inductive Logic*, ch. 3, Appended Note 3.

Locke's celebrated attack on the Syllogism is to be found in the *Essay*, Bk. IV. ch. 17, §§ 4-6. It is there that he makes the often-quoted, though irrelevant remark, that 'God has not been so sparing to men, to make them barely two-legged creatures, and left it to Aristotle to make them rational.'

² There is a chapter in the *Essay* (Bk. II. ch. 29) entitled 'On Clear and Distinct, Obscure

than about sounds put for them, nor of settling the signification of words which we use with ourselves in the search of truth or with others in discoursing about it. Those hindrances of our understandings in the pursuit of knowledge, I have sufficiently enlarged upon in another place;¹ so that nothing more needs here to be said of those matters.

VI. PRINCIPLES.

There is another fault that stops or misleads men in their knowledge, which I have also spoken something of, but yet is necessary to mention here again, that we may examine it to the bottom and see the root it springs from, and that is a custom of taking up with principles² that are not self-evident and very often not so much as true. It is not unusual to see men rest their opinions upon foundations that have no more certainty and solidity than the propositions built on them and embraced for their sake. Such

and Confused Ideas.' In § 4 of that chapter, the difference between the expression 'a *clear* idea' and 'a *distinct* idea' is stated as follows: 'As a *clear* idea is that whereof the mind has such a full and evident perception as it does receive from an outward object operating duly on a well-disposed organ, so a *distinct* idea is that wherein the mind perceives a difference from all other; and a *confused* idea is such an one, as is not sufficiently distinguishable from another from which it ought to be different.'

In the Fourth Edition of the Essay, Locke proposed to substitute for the expression 'clear and distinct' the word 'determined' or 'determinate.' He explains his meaning, in the Epistle to the Reader, thus: 'By *determinate*, when applied to a *simple* idea, I mean that simple appearance which the mind has in its view, or perceives in itself, when that idea is said to be in it. By *determined*, when applied to a complex idea, I mean such an one as consists of a determinate number of certain simple or less complex ideas, joined in such a proportion and situation as the mind has before its view and sees in itself when that idea is present in it, or should be present in it, when a man gives a name to it. I say *should* be; because it is not every one, nor perhaps any one, who is so careful of his language as to use no word, till he views in his mind the precise determined idea which he resolves to make it the sign of.'

¹ See the whole of the Third Book of the Essay, but especially chs. 9, 10, 11. The student, who reads these chapters, will do well to compare Bacon's *Novum Organum*, Bk. I. Aph. 43, 59, 60 (on the 'Idola Fori').

² *Principia*, ἀρχαί, the ultimate major premises from which our reasonings proceed. These, according to Locke, arise from the laying together and perceiving the agreement of our ideas, and our ideas are all derived from experience, either of the operations of our own minds or of the external world, that is, to use the phraseology of the Essay, either from Sensation or Reflection. See Bk. I. and Bk. II. ch. 1. Hence there are no innate principles, inasmuch as there are no innate ideas. To maintain that there are innate principles is 'to take men from the use of their own reason and judgment, and put them upon believing and taking principles upon trust, without further examination: in which posture of blind credulity men may be more easily governed by, and made useful to, some sort of men, who have the skill and office to principle and guide them.' Bk. I. ch. 4, § 24. Instances of legitimate 'First Principles' are such as these: 'Things that are equal to the same thing are equal to one another'; 'A body under the action of no external force will remain at rest or move uniformly in a straight line' (First Law of Motion); 'The angles of incidence and reflection of a ray of light are equal'; 'The supply and demand of commodities have a constant tendency to become equalized.'

foundations are these and the like, namely : the founders or leaders of my party are good men, and therefore their tenets are true ; it is the opinion of a sect that is erroneous, therefore it is false ; it hath been long received in the world, therefore it is true ; or it is new, and therefore false.

These, and many the like, which are by no means the measures of truth and falsehood, the generality of men make the standards by which they accustom their understanding to judge. And thus they falling into a habit of determining truth and falsehood by such wrong measures, it is no wonder they should embrace error for certainty, and be very positive in things they have no ground for.¹

There is not any who pretends to the least reason, but, when any of these his false maxims are brought to the test, must acknowledge them to be fallible, and such as he will not allow in those that differ from him ; and yet, after he is convinced of this, you shall see him go on in the use of them, and the very next occasion that offers argue again upon the same grounds. Would one not be ready to think that men are willing to impose upon themselves and mislead their own understandings, who conduct them by such wrong measures, even after they see they cannot be relied on ? But yet they will not appear so blamable as may be thought at first sight ; for I think there are a great many that argue thus in earnest, and do it not to impose on themselves or others. They are persuaded of what they say, and think there is weight in it, though in a like case they have been convinced there is none ; but men would be intolerable to themselves, and contemptible to others, if they should embrace opinions without any ground, and hold what they could give no manner of reason for. True or false, solid or sandy, the mind must have some foundation to rest itself upon, and, as I have remarked in another place,² it no sooner entertains

¹ Bacon is never weary of insisting on the necessity of examining first principles, and of condemning the slovenly and indolent manner in which the men of his time were accustomed to accept them either on trust, or on little or no inquiry. See, for instance, *Novum Organum*, Bk. I. Aph. 14, 17.

With what Locke here says on the carelessness of men in admitting unproved 'First Principles,' compare the admirable chapter on 'Wrong Assent or Error' in the *Essay*, Bk. IV. ch. 20, especially §§ 8-10.

² See *Essay*, Bk. IV. ch. 12, §§ 12, 13. Cp. Bacon, *Novum Organum*, Bk. I. Aph. 48 : 'Gliscit intellectus humanus, neque consistere aut acquiescere potis est, sed ulterius petit.' Bacon, thinking of ultimate causes, which he regards as not ascertainable, adds, 'at frustra.' Counselling the encouragement of curiosity on one side, and the cultivation of modesty on the other, he concludes the Aphorism by saying : 'Est autem aequè imperiti et leviter philosophantis, in maxime universalibus causam requirere, ac in subordinatis et subalternis causam non desiderare.'

any proposition, but it frequently hastens to some hypothesis¹ to bottom it on ; till then it is unquiet and unsettled. So much do our own very tempers dispose us to a right use of our understandings, if we would follow as we should the inclinations of our nature.

In some matters of concernment, especially those of religion, men are not permitted to be always wavering and uncertain, they must embrace and profess some tenets or other ; and it would be a shame, nay, a contradiction too heavy for any one's mind to lie constantly under, for him to pretend seriously to be persuaded of the truth of any religion, and yet not to be able to give any reason of his belief, or to say anything for his preference of this to any other opinion. And therefore they must make use of some principles or other, and those can be no other than such as they have and can manage ; and to say they are not in earnest persuaded by them, and do not rest upon those they make use of, is contrary to experience, and to allege that they are not misled when we complain they are.

If this be so, it will be urged, why then do they not rather make use of sure and unquestionable principles, than rest on such grounds as may deceive them, and will, as is visible, serve to support error as well as truth ?

To this I answer, the reason why they do not make use of better and surer principles, is because they cannot ; but this inability proceeds not from want of natural parts (for those few whose case that is are to be excused), but for want of use and exercise. Few men are from their youth accustomed to strict reasoning, and to trace the dependence of any truth in a long train of consequences to its remote principles, and to observe its connection ; and he that by frequent practice has not been used to this employment of his understanding, it is no more wonder that he should not, when he is grown into years, be able to bring his mind to it, than that he should not be on a sudden able to grave or design, dance on the ropes, or write a good hand, who has never practised either of them.

¹ The word 'hypothesis' seems to be used here not so much in the sense of an assumption, as of a basis or foundation, a sense more akin to the original meaning of the term. Cp. Plato, Republic, p. 511 B : τὰς ὑποθέσεις ποιούμενος οὐκ ἀρχάς, ἀλλὰ τῷ ὄντι ὑποθέσεις, οἷον ἐπιβάσεις τε καὶ ὁρμάς. Plato, however, is speaking of the basis on which we may rise to more general truths ; Locke, of the general principles on which we 'bottom' our particular beliefs. The former is thinking of the 'bases' of inductive, the latter of the 'bases' of deductive reasoning.

Nay, the most of men are so wholly strangers to this, that they do not so much as perceive their want of it. They despatch the ordinary business of their callings by rote, as we say, as they have learnt it, and, if at any time they miss success, they impute it to anything rather than want of thought or skill; that they conclude (because they know no better) they have in perfection. Or if there be any subject that interest or fancy has recommended to their thoughts, their reasoning about it is still after their own fashion; be it better or worse, it serves their turns, and is the best they are acquainted with: and therefore when they are led by it into mistakes, and their business succeeds accordingly, they impute it to any cross accident, or default of others, rather than to their own want of understanding; that is what nobody discovers or complains of in himself. Whatsoever made his business to miscarry, it was not want of right thought and judgment in himself: he sees no such defect in himself, but is satisfied that he carries on his designs well enough by his own reasoning, or at least should have done, had it not been for unlucky traverses not in his power. Thus being content with this short and very imperfect use of his understanding, he never troubles himself to seek out methods of improving his mind, and lives all his life without any notion of close reasoning in a continued connection of a long train of consequences from sure foundations, such as is requisite for the making out and clearing most of the speculative truths most men own to believe and are most concerned in. Not to mention here what I shall have occasion to insist on by and by [Section VII.] more fully, namely, that in many cases it is not one series of consequences will serve the turn, but many different and opposite deductions must be examined and laid together, before a man can come to make a right judgment of the point in question. What then can be expected from men that neither see the want of any such kind of reasoning as this, nor, if they do, know they how to set about it, or could perform it? You may as well set a countryman who scarce knows the figures, and never cast up a sum of three particulars, to state a merchant's long account, and find the true balance of it.

What then should be done in the case? I answer, we should always remember what I said above, that the faculties of our souls are improved and made useful to us just after the same manner as our bodies are. Would you have a man write or paint, dance or fence well, or perform any other manual operation dexterously and with ease, let him have ever so much vigor and activity, suppleness

and address naturally, yet nobody expects this from him unless he has been used to it, and has employed time and pains in fashioning and forming his hand or outward parts to these motions. Just so it is in the mind; would you have a man reason well, you must use him to it betimes, exercise his mind in observing the connection of ideas and following them in train. Nothing does this better than mathematics,¹ which therefore I think should be taught all those who have the time and opportunity, not so much to make them mathematicians as to make them reasonable creatures; for though we all call ourselves so, because we are born to it if we please, yet we may truly say, nature gives us but the seeds of it; we are born to be, if we please, rational creatures, but it is use and exercise only that makes us so, and we are indeed so no farther than industry and application has carried us.

This has been the less taken notice of, because every one, in his private affairs, uses some sort of reasoning or other, enough to denominate him reasonable. But the mistake is, that he that is found reasonable in one thing is concluded to be so in all, and to think or say otherwise is thought so unjust an affront, and so senseless a censure, that nobody ventures to do it. It looks like the degradation of a man below the dignity of his nature. It is true that he that reasons well in any one thing has a mind naturally capable of reasoning well in others,² and to the same degree of strength and clearness, and possibly much greater, had his understanding been so employed. But it is as true that he who can reason well to-day about one sort of matters cannot at all reason to-day about others, though perhaps a year hence he may. But wherever a man's rational faculty fails him, and will not serve him to reason, there we cannot say he is rational, how capable soever he may be by time and exercise to become so.

Try in men of low and mean education, who have never elevated their thoughts above the spade and the plough, nor looked beyond

¹ To cultivate habits of precise reasoning, and to train the mind to deal with abstract ideas and principles, no discipline can be better adapted than that of mathematics. But a mind trained exclusively on mathematics would be very ill equipped to deal with the various and complicated problems of life and science. An early training in mathematical reasoning should always be supplemented, as education proceeds, by forming a habit of analyzing and estimating the value of evidence in subjects which admit, not only of certain, but of more or less probable conclusions, such as language, law, the moral and physical sciences, history, and the affairs of ordinary life.

² This remark is not only true, but eminently useful and instructive. 'Natural incapacity' for particular branches of study, say mathematics or language, rarely exists, except in imagination; unless indeed the subject of it is deficient in mental power generally.

the ordinary drudgery of a day-laborer. Take the thoughts of such an one, used for many years to one track, out of that narrow compass he has been all his life confined to, you will find him no more capable of reasoning than almost a perfect natural. Some one or two rules, on which their conclusions immediately depend, you will find in most men have governed all their thoughts ;¹ these, true or false, have been the maxims they have been guided by : take these from them, and they are perfectly at a loss, their compass and pole star then are gone, and their understanding is perfectly at a nonplus, and therefore they either immediately return to their old maxims again as the foundations of all truth to them, notwithstanding all that can be said to show their weakness, or, if they give them up to their reasons, they with them give up all truth and further inquiry, and think there is no such thing as certainty.² For if you would enlarge their thoughts, and settle them upon more remote and surer principles, they either cannot easily apprehend them, or, if they can, know not what use to make of them ; for long deductions from remote principles is what they have not been used to, and cannot manage.

What then, can grown men never be improved or enlarged in their understandings ? I say not so, but this I think I may say, that it will not be done without industry and application, which will require more time and pains than grown men, settled in their course of life, will allow to it, and therefore very seldom is done.³ And this very capacity of attaining it by use and exercise only brings us back to that which I laid down before, that it is only practice that improves our minds as well as bodies, and we must expect nothing from our understandings any farther than they are perfected by habits.

¹ Men should be peculiarly on their guard against constantly repeating, to themselves or others, compact and neatly worded maxims. Principles of this kind come after a time to exercise a tyranny over the mind, recur on every occasion, and, being taken without any qualification, often have a wonderful effect in perverting the judgment. The tendency to be constantly enunciating and acting on maxims of this kind is often particularly observable in old men, or persons whose experience has been mainly confined to some one sphere of activity, such as seafaring men or lawyers.

² Bacon, in his *Essay on Atheism* : 'A little philosophy inclineth man's mind to Atheism ; but depth in philosophy bringeth men's minds about to religion ; for while the mind of man looketh upon second causes scattered, it may rest in them, and go no further ; but when it beholdeth the chain of them confederate and linked together, it must needs fly to Providence and Deity.'

³ Bishop Butler, in his *Analogy of Religion*, Part I. ch. v., remarks : 'The former part of life . . . is a state of education, in which we are much assisted by the example, instruction, and care of others, and in which a great deal is left for ourselves to do. This opportunity, when lost, is not to be recovered.'

The Americans are not all born with worse understandings than the Europeans, though we see none of them have such reaches in the arts and sciences. And among the children of a poor countryman, the lucky chance of education and getting into the world gives one infinitely the superiority in parts over the rest, who, continuing at home, had continued also just of the same size with his brethren.

He that has to do with young scholars,¹ especially in mathematics, may perceive how their minds open by degrees, and how it is exercise alone that opens them. Sometimes they will stick a long time at a part of a demonstration, not for want of will and application, but really for want of perceiving the connection of two ideas, that, to one whose understanding is more exercised, is as visible as anything can be. The same would be with a grown man beginning to study mathematics; the understanding, for want of use, often sticks in very plain way, and he himself that is so puzzled, when he comes to see the connection, wonders what it was he stuck at in a case so plain.

VII. MATHEMATICS.

I have mentioned mathematics as a way to settle in the mind a habit of reasoning closely and in train; not that I think it necessary that all men should be deep mathematicians, but that having got the way of reasoning, which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge as they shall have occasion. For, in all sorts of reasoning, every single argument should be managed as a mathematical demonstration, the connection and dependence of ideas should be followed till the mind is brought to the source on which it bottoms and observes the coherence all along, though, in proofs of probability, one such train is not enough to settle the judgment as in demonstrative knowledge.²

¹ Locke speaks from experience. Not only had he given much advice with respect to the education of children and young men, but he had spent a great part of his time in the practical work of instruction. In early life he acted as Tutor and Censor of Christ Church. Afterwards, he was instructor to the second, and supervised the studies of the third, Earl of Shaftesbury. Moreover, while in France during the years 1677 and 1678, he travelled with a pupil, the son of a rich merchant named Sir John Banks. It is curious, when we remember Locke's attacks on the logic of the Schools, to learn the nature of his objections to entering young Banks in the study of mathematics. 'To engage one in mathematics who is not yet acquainted with the very rudiments of logic is a method of study I have not known practised, and seems to me not very reasonable.'

² What Locke means by *demonstrative knowledge* is, that the mode of proof, that is, the analysis of the reasoning, is the same in all cases, though in some cases the conclusions may

Where a truth is made out by one demonstration, there needs no farther inquiry, but in probabilities where there wants demonstration to establish the truth beyond doubt, there it is not enough to trace one argument to its source, and observe its strength and weakness, but all the arguments, after having been so examined on both sides, must be laid in balance one against another, and upon the whole the understanding determine its assent.

This is a way of reasoning the understanding should be accustomed to, which is so different from what the illiterate are used to, that even learned men oftentimes seem to have very little or no notion of it. Nor is it to be wondered, since the way of disputing in the schools¹ leads them quite away from it, by insisting on one topical argument,² by the success of which the truth or falsehood of the question is to be determined, and victory adjudged to the opponent or defendant; which is all one as if one should balance an account by one sum charged and discharged, when there are an hundred others to be taken into consideration.

This therefore it would be well if men's minds were accustomed to, and that early, that they might not erect their opinions upon one single view, when so many other are requisite to make up the

be demonstrative, in others only probable. The only differences which he recognizes between demonstrative and probable reasoning are, that, in the one, a single proof is sufficient to establish the conclusion, which may then be taken for certain, whereas, in the other, several arguments of varying degrees of probability, some tending one way and some another, have to be taken into account, the conclusion expressing the preponderance of the evidence. For his remarks on Probability, see Essay, Bk. IV. chs. 15, 16, and ch. 17, § 5.

It is by no means correct to say that 'in all sorts of reasoning every single argument should be managed as a mathematical demonstration.' It is indeed true that, in all cases, a belief should be traced 'to the source on which it bottoms,' or that the propositions on which our assent is based should be so put together that we may see their connection with the conclusion. But this connection may be exhibited in various ways. Thus, the best and most natural mode of representing an inductive argument (see the first chapter of my Elements of Inductive Logic) is entirely different from that of representing a deductive argument, though, by a certain amount of manipulation, the one form may be brought under the other. Again, even in deductive ratiocination, there are rules, quite distinct from those of the ordinary syllogism, for estimating the precise value to be attached to probable arguments, whether in single syllogisms or in combinations of syllogisms, or on a balance of rival probabilities. The student will find a statement and discussion of such rules in almost any recent work on Logic. Mr. Venn's Logic of Chance is specially appropriated to the discussion of these and kindred subjects.

¹ What Locke thought of the 'disputations,' which were then in common use throughout the universities of Europe, may be gathered from 'Thoughts concerning Education,' § 189.

² Cp. Essay, Bk. IV. ch. 17, § 5. The expression 'topical argument' applies to an argument derived from certain general heads of probability, which, in the language of Aristotle and his followers, were called *τόποι*, commonplaces, or common forms. They were the main subject of the art entitled *τοπική* or *διαλεκτική*, and of the eight (or, including the Sophistici Elenchi, the nine) books called the Topics. This work deals with logic when applied to disputation on disputable (probable) matter, as opposed to the logic of demonstration in science, which is treated in the Posterior Analytics.

account, and must come into the reckoning before a man can form a right judgment. This would enlarge their minds, and give a due freedom to their understandings, that they might not be led into error by presumption, laziness, or precipitancy ; for I think nobody can approve such a conduct of the understanding as should mislead it from truth, though it be ever so much in fashion to make use of it.

To this perhaps it will be objected, that to manage the understanding, as I propose, would require every man to be a scholar, and to be furnished with all the materials of knowledge, and exercised in all the ways of reasoning. To which I answer, that it is a shame for those that have time and the means to attain knowledge, to want any helps or assistance for the improvement of their understandings that are to be got, and to such I would be thought here chiefly to speak. Those, methinks, who by the industry and parts of their ancestors have been set free from a constant drudgery to their backs and their bellies, should bestow some of their spare time on their heads, and open their minds by some trials and essays in all the sorts and matters of reasoning. I have before mentioned mathematics, wherein algebra gives new helps and views to the understanding. If I propose these, it is not, as I said, to make every man a thorough mathematician, or a deep algebraist ; but yet I think the study of them is of infinite use even to grown men.

First, by experimentally convincing them that, to make any one reason well, it is not enough to have parts wherewith he is satisfied and that serve him well enough in his ordinary course. A man in those studies will see that, however good he may think his understanding, yet in many things, and those very visible, it may fail him. This would take off that presumption that most men have of themselves in this part ; and they would not be so apt to think their minds wanted no helps to enlarge them, that there could be nothing added to the acuteness and penetration of their understandings.

Secondly, the study of mathematics would show them the necessity there is, in reasoning, to separate all the distinct ideas, and see the habitudes that all those concerned in the present inquiry have to one another, and to lay by those which relate not to the proposition in hand, and wholly to leave them out of the reckoning.¹

¹ Here Locke has undoubtedly hit on one of the great excellences of mathematical discipline. The power of abstracting the mind from all irrelevant data and issues is specially developed even by such elementary departments of mathematical work as those of solving

This is that which in other subjects, besides quantity, is what is absolutely requisite to just reasoning, though in them it is not so easily observed nor so carefully practised. In those parts of knowledge where it is thought demonstration has nothing to do, men reason as it were in the lump:¹ and if, upon a summary and confused view, or upon a partial consideration, they can raise the appearance of a probability, they usually rest content; especially if it be in a dispute where every little straw is laid hold on, and everything that can but be drawn in any way to give color to the argument is advanced with ostentation. But that mind is not in a posture to find the truth, that does not distinctly take all the parts asunder, and, omitting what is not at all to the point, draw a conclusion from the result of all the particulars which any way influence it. There is another no less useful habit to be got by an application to mathematical demonstrations, and that is, of using the mind to a long train of consequences; but, having mentioned that already, I shall not again here repeat it.

As to men whose fortunes and time is narrower, what may suffice them is not of that vast extent as may be imagined, and so comes not within the objection.

Nobody is under an obligation to know everything. Knowledge and science in general is the business only of those who are at ease and leisure. Those who have particular callings ought to understand them; and it is no unreasonable proposal, nor impossible to be compassed, that they should think and reason right about what is their daily employment. This one cannot think them incapable of, without levelling them with the brutes, and charging them with a stupidity below the rank of rational creatures.

VIII. RELIGION.

Besides his particular calling for the support of this life, every one has a concern in a future life, which he is bound to look after. This engages his thoughts in religion; and here it mightily lies

what are called 'Problems' in Algebraic Equations and 'Deductions' in Plane Geometry. Exercises of this kind ought to form an invariable element in early education. The tendency to dwell on or diverge to irrelevant topics is, perhaps, the most frequent of all the intellectual faults to which ordinary men are subject, whether in argument, in conversation, or in thinking for themselves.

¹ Instead of reasoning in the lump, they ought carefully to distinguish the various questions to be resolved, thus ascertaining exactly where the difficulties lie. When the various questions have been disentangled, they ought to form a separate conclusion on each of the questions or groups of questions before them.

upon him to understand and reason right.¹ Men therefore cannot be excused from understanding the words, and framing the general notions, relating to religion, right. The one day of seven, besides other days of rest, allows in the Christian world time enough for this (had they no other idle hours), if they would but make use of these vacancies from their daily labor, and apply themselves to an improvement of knowledge, with as much diligence as they often do to a great many other things that are useless, and [*with the guidance of*] those that could enter them according to their several capacities in a right way to this knowledge. The original make of their minds is like that of other men, and they would be found not to want understanding fit to receive the knowledge of religion, if they were a little encouraged and helped in it as they should be. For there are instances of very mean people, who have raised their minds to a great sense and understanding of religion. And though these have not been so frequent as could be wished, yet they are enough to clear that condition of life from a necessity of gross ignorance, and to show that more might be brought to be rational creatures and Christians (for they can hardly be thought really to be so, who, wearing the name, know not so much as the very principles of that religion) if due care were taken of them. For, if I mistake not, the peasantry lately in France (a rank of people under a much heavier pressure of want and poverty than the day-laborers in England) of the reformed religion² understood it much better, and could say more for it, than those of a higher condition among us.

But if it shall be concluded that the meaner sort of people must give themselves up to a brutish stupidity in the things of their nearest concernment, which I see no reason for, this excuses not those of a freer fortune and education, if they neglect their understandings, and take no care to employ them as they ought and set

¹ Locke was himself a writer on religious topics. In 1695, about two years before he had begun to write the treatise here republished, he published his work on 'The Reasonableness of Christianity as delivered in the Scriptures,' wherein he attempts to discriminate between the essential and non-essential elements in Christian belief. During the last years of his life, he was engaged in writing notes on some of St. Paul's Epistles, which, however, were not published till after his death.

² Locke had probably seen and heard a good deal of the Huguenots during his stay at Montpellier and his journeys in the south of France. Moreover, the Revocation of the Edict of Nantes, in 1685, had brought over to England large numbers of them, who were remarkable for their industry, thrift, and intelligence. It will be noticed that he says 'lately,' referring to the time before the Revocation of the Edict of Nantes, which had caused such a large proportion of the French Protestants to emigrate to foreign countries.

Locke's observations, during his travels, of the intense poverty of the French peasantry, are given both in Lord King's Life, and in that of Mr. Fox-Bourne.

them right in the knowledge of those things for which principally they were given them. At least those whose plentiful fortunes allow them the opportunities and helps of improvements are not so few, but that it might be hoped great advancements might be made in knowledge of all kinds, especially in that of the greatest concern and largest views, if men would make a right use of their faculties and study their own understandings.

IX. IDEAS.

Outward corporeal objects that constantly importune our senses, and captivate our appetites, fail not to fill our heads with lively and lasting ideas of that kind. Here the mind needs not be set upon getting greater store; they offer themselves fast enough, and are usually entertained in such plenty, and lodged so carefully, that the mind wants room or attention for others that it has more use and need of. To fit the understanding therefore for such reasoning as I have been above speaking of, care should be taken to fill it with moral and more abstract ideas; for these not offering themselves to the senses, but being to be framed to the understanding, people are generally so neglectful of a faculty they are apt to think wants nothing, that I fear most men's minds are more unfurnished with such ideas than is imagined. They often use the words, and how can they be suspected to want the ideas? What I have said in the Third Book of my Essay, will excuse me from any other answer to this question. But to convince people of what moment it is to their understandings to be furnished with such abstract ideas steady and settled in them, give me leave to ask how any one shall be able to know whether he be obliged to be just, if he has not established ideas in his mind of obligation and of justice, since knowledge consists in nothing but the perceived agreement or disagreement of those ideas;¹ and so of all others the like which concern our lives and manners. And if men do find a difficulty to see the agreement or disagreement of two angles which lie before their eyes, unalterable in a diagram, how utterly impossible will it be to perceive in it ideas that have no other sensible objects to represent them to the mind but sounds with which they have no manner of conformity, and therefore had need to be clearly settled in the mind themselves, if we would make any clear judgment about them. This therefore is one of the first things the mind should be employed about in the right conduct of

¹ This is the doctrine of the Fourth Book of Locke's Essay. See Bk. IV. ch. 1.

the understanding, without which it is impossible it should be capable of reasoning right about those matters. But in these and all other ideas, care must be taken that they harbor no inconsistencies, and that they have a real existence where real existence is supposed, and are not mere chimeras with a supposed existence.

X. PREJUDICE.

Every one is forward to complain of the prejudices that mislead other men or parties, as if he were free, and had none of his own. This being objected on all sides, it is agreed that it is a fault and an hindrance to knowledge. What now is the cure? No other but this, that every man should let alone others' prejudices and examine his own. Nobody is convinced of his by the accusation of another; he recriminates by the same rule, and is clear. The only way to remove this great cause of ignorance and error out of the world is for every one impartially to examine himself. If others will not deal fairly with their own minds, does that make my errors truths, or ought it to make me in love with them and willing to impose on myself? If others love cataracts on their eyes, should that hinder me from couching of mine as soon as I could? Every one declares against blindness, and yet who almost is not fond of that which dims his sight, and keeps the clear light out of his mind, which should lead him into truth and knowledge? False or doubtful positions, relied upon as unquestionable maxims, keep those in the dark from truth, who build on them. Such are usually the prejudices imbibed from education, party, reverence, fashion, interest, &c. This is the mote which every one sees in his brother's eye, but never regards the beam in his own. For who is there almost that is ever brought fairly to examine his own principles, and see whether they are such as will bear the trial? But yet this should be one of the first things every one should set about, and be scrupulous in, who would rightly conduct his understanding in the search of truth and knowledge.

To those who are willing to get rid of this great hindrance of knowledge (for to such only I write), to those who would shake off this great and dangerous impostor prejudice, who dresses up falsehood in the likeness of truth, and so dexterously hoodwinks men's minds as to keep them in the dark with a belief that they are more in the light than any that do not see with their own eyes, I shall offer this one mark whereby prejudice may be known. He that is strongly of any opinion must suppose (unless he be self-condemned)

that his persuasion is built upon good grounds, and that his assent is no greater than what the evidence of the truth he holds forces him to, and that they are arguments, and not inclination or fancy, that make him so confident and positive in his tenets. Now if, after all his profession, he cannot bear any opposition to his opinion, if he cannot so much as give a patient hearing, much less examine and weigh the arguments on the other side, does he not plainly confess it is prejudice governs him? And it is not the evidence of truth, but some lazy anticipation, some beloved presumption, that he desires to rest undisturbed in. For if what he holds be, as he gives out, well fenced with evidence, and he sees it to be true, what need he fear to put it to the proof? If his opinion be settled upon a firm foundation, if the arguments that support it and have obtained his assent be clear, good, and convincing, why should he be shy to have it tried whether they be proof or not?² He whose assent goes beyond his evidence owes this excess of his adherence only to prejudice, and does, in effect, own it, when he refuses to hear what is offered against it; declaring thereby that it is not evidence he seeks, but the quiet enjoyment of the opinion he is fond of, with a forward condemnation of all that may stand in opposition to it, unheard and unexamined; which, what is it but prejudice? *Qui aequum statuerit parte inauditâ alterâ, etiam si aequum statuerit, haud aequus fuerit.*¹ He that would acquit himself in this case as a lover of truth, not giving way to any preoccupation or bias that may mislead him, must do two things that are not very common nor very easy. [1. Love truth for its own sake, and, 2. Examine for himself, as is set forth in Sections XI., XII.]

XI. INDIFFERENCY.

First, he must not be in love with any opinion, or wish it to be true, till he knows it to be so, and then he will not need to wish it: for nothing that is false can deserve our good wishes, nor a desire that it should have the place and force of truth; and yet nothing is more frequent than this. Men are fond of certain tenets upon no other evidence but respect and custom, and think they must maintain them, or all is gone, though they have never examined the

¹ 'Qui statuit aliquid parte inaudita altera,
Aequum licet statuerit, haud aequus fuit.'

Seneca, Medea, 199, 200.

² Voltaire remarks that the man who should hope to make his way in society by the weapons of logic would be as mad as Don Quixote; but Locke holds that the truth may be maintained in conversation without offence.

ground they stand on, nor have ever made them out to themselves, or can make them out to others. We should contend earnestly for the truth, but we should first be sure that it is truth, or else we fight against God, who is the God of truth, and do the work of the Devil, who is the father and propagator of lies; and our zeal, though ever so warm, will not excuse us; for this is plainly prejudice.

XII. EXAMINE.

Secondly, he must do that which he will find himself very averse to, as judging the thing unnecessary or himself incapable of doing it. He must try whether his principles be certainly true or not, and how far he may safely rely upon them. This, whether fewer have the heart or the skill to do, I shall not determine; but this I am sure, this is that which every one ought to do, who professes to love truth and would not impose upon himself, which is a surer way to be made a fool of than by being exposed to the sophistry of others. The disposition to put any cheat upon ourselves works constantly, and we are pleased with it, but are impatient of being bantered or misled by others. The inability I here speak of is not any natural defect that makes men incapable of examining their own principles. To such, rules of conducting their understandings are useless, and that is the case of very few. The great number is of those whom the ill habit of never exerting their thoughts has disabled: the powers of their minds are starved by disuse, and have lost that reach and strength which nature fitted them to receive from exercise. Those who are in a condition to learn the first rules of plain arithmetic, and could be brought to cast up an ordinary sum, are capable of this, if they had but accustomed their minds to reasoning: but they that have wholly neglected the exercise of their understandings in this way will be very far at first from being able to do it, and as unfit for it as one unpractised in figures to cast up a shop-book, and perhaps think it as strange to be set about it. And yet it must nevertheless be confessed to be a wrong use of our understandings to build our tenets (in things where we are concerned to hold the truth) upon principles that may lead us into error. We take our principles at haphazard upon trust, and without ever having examined them, and then believe a whole system, upon a presumption that they are true and solid; and what is all this but childish, shameful, senseless credulity?

In these two things, namely, an equal indifferency for all truth, I mean the receiving it in the love of it as truth, but not loving it for

any other reason before we know it to be true, and in the examination of our principles, and not receiving any for such nor building on them till we are fully convinced, as rational creatures, of their solidity, truth, and certainty, consists that freedom of the understanding which is necessary to a rational creature, and without which it is not truly an understanding. It is conceit, fancy, extravagance, anything rather than understanding, if it must be under the constraint of receiving and holding opinions by the authority of anything but their own, not fancied, but perceived, evidence. This was rightly called imposition, and is of all other the worst and most dangerous sort of it. For we impose upon ourselves, which is the strongest imposition of all others; and we impose upon ourselves in that part which ought with the greatest care to be kept free from all imposition. The world is apt to cast great blame on those who have an indifferency for opinions, especially in religion. I fear this is the foundation of great error and worse consequences. To be indifferent which of two opinions is true, is the right temper of the mind that preserves it from being imposed on, and disposes it to examine with that indifferency, till it has done its best to find the truth, and this is the only direct and safe way to it. But to be indifferent whether we embrace falsehood or truth or no, is the great road to error. Those who are not indifferent which opinion is true are guilty of this; they suppose, without examining, that what they hold is true, and then think they ought to be zealous for it. Those, it is plain by their warmth and eagerness, are not indifferent for their own opinions, but methinks are very indifferent whether they be true or false, since they cannot endure to have any doubts raised or objections made against them; and it is visible they never have made any themselves, and so, never having examined them, know not nor are concerned, as they should be, to know whether they be true or false.¹

These are the common and most general miscarriages which I think men should avoid or rectify in a right conduct of their understandings, and should be particularly taken care of in education. The business whereof in respect of knowledge is not, as I think, to perfect a learner in all or any one of the sciences, but to give his

¹ Arrian, as quoted by Bishop Patrick in his *Advice to a Friend*, says: 'Let us begin everything without too much desire or aversion. Let us not incline to this or the other way; but behave ourselves like a traveller, who, when he comes to two ways, asks him whom he meets next which of these he shall take to such a place, — having no inclination to the right hand or to the left, but doubting only to know the true and direct way that will carry him to his journey's end.'

mind that freedom, that disposition, and those habits that may enable him to attain any part of knowledge he shall apply himself to, or stand in need of, in the future course of his life.¹

This and this only is well principling, and not the instilling a reverence and veneration for certain dogmas under the specious title of principles, which are often so remote from that truth and evidence which belongs to principles that they ought to be rejected as false and erroneous, and is often the cause, to men so educated, when they come abroad into the world, and find they cannot maintain the principles so taken up and rested in, to cast off all principles and turn perfect sceptics, regardless of knowledge and virtue.

There are several weaknesses and defects in the understanding, either from the natural temper of the mind or ill habits taken up, which hinder it in its progress to knowledge. Of these there are as many possibly to be found, if the mind were thoroughly studied, as there are diseases of the body, each whereof clogs and disables the understanding to some degree, and therefore deserves to be looked after and cured. I shall set down some few to excite men, especially those who make knowledge their business, to look into themselves, and observe whether they do not indulge some weakness, allow some miscarriages in the management of their intellectual faculty, which is prejudicial to them in the search of truth.

XIII. OBSERVATION.

Particular matters of fact are the undoubted foundations on which our civil and natural knowledge is built; the benefit the understanding makes of them is to draw from them conclusions,² which may be as standing rules of knowledge, and consequently of practice. The mind often makes not that benefit it should of the information it receives from the accounts of civil or natural historians, in being too forward or too slow in making observations on the particular facts recorded in them.

¹ This is the ideal of a liberal education, the object of which is to form intellectual aptitudes rather than to infuse specific knowledge. The advocates of a special education, on the other hand, maintain that, after a certain period in a young man's life, the best mode of enabling him to learn well any subject to which he may hereafter apply himself is to exercise him thoroughly on some one branch of knowledge. Lastly, what is called an useful education is one which is designed solely with a view to fitting the pupil for his future profession or walk in life. Locke's point of view is at least as old as the time of Plato. See *Republic*, p. 518 B, &c., and the whole scheme of the higher education as delineated in that dialogue. See also *Thoughts on Education*, § 94.

² The conclusions being inductions, which are based on the facts. Here, again, the spirit of Locke's remarks is thoroughly Baconian.

There are those who are very assiduous in reading, and yet do not much advance their knowledge by it. They are delighted with the stories that are told, and perhaps can tell them again, for they make all they read nothing but history to themselves; but not reflecting on it, not making to themselves observations from what they read, they are very little improved by all that crowd of particulars that either pass through or lodge themselves in their understandings. They dream on in a constant course of reading and cramming themselves, but, not digesting anything, it produces nothing but a heap of crudities.

If their memories retain well, one may say they have the materials of knowledge, but, like those for building, they are of no advantage, if there be no other use made of them but to let them lie heaped up together. Opposite to these there are others who lose the improvement they should make of matters of fact by a quite contrary conduct. They are apt to draw general conclusions, and raise axioms from every particular they meet with. These make as little true benefit of history¹ as the other, nay, being of forward and active spirits, receive more harm by it; it being of worse consequence to steer one's thoughts by a wrong rule than to have none at all, error doing to busy men much more harm than ignorance to the slow and sluggish.² Between these, those seem to do best who, taking material and useful hints, sometimes from single matters of fact, carry them in their minds to be judged of by what they shall find in history to confirm or reverse these imperfect observations; which may be established into rules fit to be relied on, when they are justified by a sufficient and wary induction of particulars. He that makes no such reflections on what he reads, only loads his mind with a rhapsody of tales fit in winter nights for the entertainment of others; and he that will improve every matter of fact into a maxim will abound in contrary observations, that can be of no other use but to perplex and pudder [*confuse, mystify, or involve in doubt*] him, if he compares them, or else to misguide him, if he gives himself up

¹ We must recollect that the word *history* was at this time used for a collection of facts of any kind. Bacon commonly uses the term in this sense. Thus the alternative title of the *Sylva Sylvarum* is 'A Natural History,' and the third part of the *Instauratio Magna* was to be entitled 'Phaenomena Universi, sive Historia Naturalis et Experimentalis ad condendam Philosophiam.' In the title of Aristotle's work, the *Historia Animalium* (*Περὶ τὰ ζῷα ἱστορίαι*), the word means 'inquiry,' but it quickly passes from this meaning to signify the result of such an inquiry, the information thus obtained.

² Thucydides, by the mouth of Cleon, says: 'A state possessing inferior laws, but faithfully executed, is preferable to one with better institutions, which do not influence the practice of the citizens.' — B. iii. 37.

to the authority of that which for its novelty, or for some other fancy, best pleases him.

XIV. BIAS.

Next to these we may place those who suffer their own natural tempers and passions they are possessed with to influence their judgments, especially of men and things that may any way relate to their present circumstances and interest. Truth is all simple, all pure, will bear no mixture of anything else with it. It is rigid and inflexible to any by interests ; and so should the understanding be, whose use and excellency lies in conforming itself to it. To think of everything just as it is in itself is the proper business of the understanding, though it be not that which men always employ it to. This all men, at first hearing, allow is the right use every one should make of his understanding. Nobody will be at such an open defiance with common sense, as to profess that we should not endeavor to know and think of things as they are in themselves, and yet there is nothing more frequent than to do the contrary. And men are apt to excuse themselves, and think they have reason to do so, if they have but a pretence that it is for God, or a good cause, that is, in effect, for themselves, their own persuasion, or party ; for those, in their turns, the several sects of men, especially in matters of religion, entitle God and a good cause. But God requires not men to wrong or misuse their faculties for Him, nor to lie to others or themselves for his sake ;¹ which they purposely do, who will not suffer their understandings to have right conceptions of the things proposed to them, and designedly restrain themselves from having just thoughts of everything, as far as they are concerned to inquire. And as for a good cause, that needs not such ill helps ; if it be good, truth will support it, and it has no need of fallacy or falsehood.

XV. ARGUMENTS.

Very much of kin to this is the hunting after arguments to make good one side of a question, and wholly to neglect and refuse those

¹ Bacon, in his *Advancement of Learning*, Book I., Aldis Wright's edition, p. 9 : 'And as for the conceit that too much knowledge should incline a man to atheism, and that the ignorance of second causes should make a more devout dependence upon God, which is the first cause ; first, it is good to ask the question which Job asked of his friends : *Will you lie for God, as one man will do for another, to gratify him ?* For certain it is that God worketh nothing in nature but by second causes : and if they would have it otherwise believed, it is mere imposture, as it were in favor towards God ; and nothing else but to offer to the Author of truth the unclean sacrifice of a lie.'

which favor the other side. What is this but wilfully to misguide the understanding? And [it] is so far from giving truth its due value, that it wholly debases it. [Men] espouse opinions that best comport with their power, profit, or credit, and then seek arguments to support them. Truth, lighted [*lit*] upon this way, is of no more avail to us than error; for what is so taken up by us may be false as well as true, and he has not done his duty who has thus stumbled upon truth in his way to preferment.

There is another but more innocent way of collecting arguments, very familiar among bookish men, which is to furnish themselves with the arguments they meet with pro and con in the questions they study. This helps them not to judge right, nor argue strongly, but only to talk copiously on either side, without being steady and settled in their own judgments:¹ for such arguments gathered from other men's thoughts, floating only in the memory, are there ready indeed to supply copious talk with some appearance of reason, but are far from helping us to judge right. Such variety of arguments only distract the understanding that relies on them, unless it has gone farther than such a superficial way of examining; this is to quit truth for appearance, only to serve our vanity. The sure and only way to get true knowledge is to form in our minds clear, settled notions of things, with names annexed to those determined ideas. These we are to consider, and with their several relations and habitudes, and not amuse ourselves with floating names, and words of indetermined signification, which we can use in several senses to serve a turn. It is in the perception of the habitudes and respects our ideas have one to another that real knowledge consists; and when a man once perceives how far they agree or disagree one with another, he will be able to judge of what other people say, and will not need to be led by the arguments of others, which are many of them nothing but plausible sophistry. This will teach him to state the question right, and see whereon it turns; and thus he will stand upon his own legs, and know by his own understanding. Whereas by collecting and learning arguments by heart, he will be but a retainer to others; and when any one questions the foundations they are built upon, he will be at a nonplus,

¹ Butler thus characterizes the dexterity of Hudibras:

‘On either side he could dispute,
Confute, change hands, and still confute.’

In the Euthydemus of Plato there are pictures of this kind of trifling disputation *de omnibus rebus*.

and be fain to give up his implicit [*second-hand, or taken on trust*] knowledge.

XVI. HASTE.

Labor for labor[’s] sake is against nature.¹ The understanding, as well as all the other faculties, chooses always the shortest way to its end, would presently obtain the knowledge it is about, and then set upon some new inquiry. But this whether laziness or haste often misleads it, and makes it content itself with improper ways of search and such as will not serve the turn. Sometimes it rests upon testimony, when testimony of right has nothing to do, because it is easier to believe than to be scientifically instructed. Sometimes it contents itself with one argument, and rests satisfied with that, as it were a demonstration; whereas the thing under proof is not capable of demonstration, and therefore must be submitted to the trial of probabilities, and all the material arguments pro and con be examined and brought to a balance. In some cases the mind is determined by probable topics in inquiries, where demonstration may be had. All these, and several others, which laziness, impatience, custom, and want of use and attention lead men into, are misapplications of the understanding in the search of truth. In every question, the nature and manner of the proof it is capable of should first be considered to make our inquiry such as it should be. This would save a great deal of frequently misemployed pains, and lead us sooner to that discovery and possession of truth we are capable of. The multiplying variety of arguments, especially frivolous ones, such as are all that are merely verbal, is not only lost labor, but cumbers the memory to no purpose, and serves only to hinder it from seizing and holding of the truth in all those cases which are capable of demonstration. In such a way of proof the truth and certainty is seen, and the mind fully possesses itself of it; when in the other way of assent, it only hovers about it, is amused with uncertainties. In this superficial way, indeed, the mind is capable of more variety of plausible talk, but is not enlarged as it should be in its knowledge. It is to this same haste and impatience of the mind also that a not due tracing of the arguments to their true foundation is owing; men see a little, presume a great deal, and so jump to the conclusion.² This is a short way to fancy and conceit, and

¹ *Labor ipsa voluptas*, expresses a habit of mind not uncommon in men of nervous temperament.

² This procedure is what Bacon calls ‘*anticipatio mentis*.’

(if firmly embraced) to opiniatry, but is certainly the farthest way about to knowledge. For he that will know must by the connection of the proofs see the truth, and the ground it stands on; and, therefore, if he has for haste skipped over what he should have examined, he must begin and go over all again, or else he will never come to knowledge.

XVII. DESULTORY.

Another fault of as ill consequence as this, which proceeds also from laziness with a mixture of vanity, is the skipping from one sort of knowledge to another.¹ Some men's tempers are quickly weary of any one thing. Constancy and assiduity is what they cannot bear: the same study long continued in is as intolerable to them, as the appearing long in the same clothes or fashion is to a court lady.

XVIII. SMATTERING.

Others, that they may seem universally knowing, get a little smattering in everything. Both these may fill their heads with superficial notions of things, but are very much out of the way of attaining truth or knowledge.²

XIX. UNIVERSALITY.

I do not here speak against the taking a taste of every sort of knowledge; it is certainly very useful and necessary to form the mind, but then it must be done in a different way and to a different end. Not for talk and vanity to fill the head with shreds of all kinds, that he who is possessed of such a frippery may be able to match the discourses of all he shall meet with, as if nothing could come amiss to him, and his head was so well stored a magazine, that nothing could be proposed which he was not master of and was readily furnished to entertain any one on.³ This is an excellency indeed, and a great one too, to have a real and true knowledge in all or most of the objects of contemplation. But it is what the mind of one and the same man can hardly attain unto; and

¹ Bacon abounds in suggestions to cure this tendency and habit of mind, and cultivate the ability of fixed attention. See *Advancement of Learning*.

² Pope's axiom, —

‘A little knowledge is a dangerous thing,
Drink deep or taste not the Pierian spring,’ —

must be received with limitations, as Whately points out in his *Annotations on Bacon*.

³ The Sophist Gorgias, in Plato's Dialogue of that title, boasts that for many years no one had proposed to him a single new question. See also Cicero *de Orat.*, iii. 32.

the instances are so few of those who have in any measure approached towards it, that I know not whether they are to be proposed as examples in the ordinary conduct of the understanding. For a man to understand fully the business of his particular calling in the commonwealth, and of religion, which is his calling as he is a man in the world, is usually enough to take up his whole time ; and there are few that inform themselves in these, which is every man's proper and peculiar business, so to the bottom as they should do. But though this be so, and there are very few men that extend their thoughts towards universal knowledge, yet I do not doubt but if the right way were taken, and the methods of inquiry were ordered as they should be, men of little business and great leisure might go a great deal farther in it than is usually done. To return to the business in hand, the end and use of a little insight in those parts of knowledge, which are not a man's proper business, is to accustom our minds to all sorts of ideas and the proper ways of examining their habitudes and relations. This gives the mind a freedom, and the exercising the understanding in the several ways of inquiry and reasoning, which the most skilful have made use of, teaches the mind sagacity and wariness, and a suppleness to apply itself more closely and dexterously to the bents and turns of the matter in all its researches. Besides, this universal taste of all the sciences, with an indifferency before the mind is possessed with any one in particular and grown into love and admiration of what is made its darling, will prevent another evil very commonly to be observed in those who have from the beginning been seasoned only by one part of knowledge. Let a man be given up to the contemplation of one sort of knowledge, and that will become everything.¹ The mind will take such a tincture from a familiarity with that object, that everything else, how remote soever, will be brought under the same view.² A metaphysician will bring ploughing and gardening immediately to abstract notions ; the history of nature shall signify nothing to him. An alchemist, on the contrary, shall reduce divinity to the maxims of his laboratory, explain morality by Sal, Sulphur, and Mercury,³ and allegorize the Scripture itself, and the

¹ Bacon, in the *Novum Organum*, Bk. I. Aph. 54.

² Cicero believed in the *commune vinculum* of all the sciences, which the perfect orator should understand ; but he does not, with Condillac and Buffon, reduce all the sciences to one. The possession of this 'link' at once widens the special knowledge which too often narrows and stiffens the mind of the artist and the professional man, of which Locke, further on, complains.

³ This was the Triad of Paracelsus, and, at an earlier time, of Basilus Valentinus.

sacred mysteries thereof, into the philosopher's stone. And I heard once a man, who had a more than ordinary excellency in music, seriously accommodate Moses' seven days of the first week to the notes of music, as if from thence had been taken the measure and method of the creation. It is of no small consequence to keep the mind from such a possession, which I think is best done by giving it a fair and equal view of the whole intellectual world, wherein it may see the order, rank, and beauty of the whole, and give a just allowance to the distinct provinces of the several sciences in the due order and usefulness of each of them.

If this be that which old men will not think necessary, nor be easily brought to, it is fit at least that it should be practised in the breeding of the young. The business of education, as I have already observed, is not, as I think, to make them perfect in any one of the sciences, but so to open and dispose their minds as may best make them capable of any, when they shall apply themselves to it. If men are for a long time accustomed only to one sort or method of thoughts, their minds grow stiff in it, and do not readily turn to another. It is therefore to give them this freedom, that I think they should be made to look into all sorts of knowledge, and exercise their understandings in so wide a variety and stock of knowledge. But I do not propose it as a variety and stock of knowledge, but a variety and freedom of thinking, as an increase of the powers and activity of the mind, not as an enlargement of its possessions.

XX. READING.

This is that which I think great readers are apt to be mistaken in.¹ Those who have read of everything are thought to understand everything too; but it is not always so. Reading furnishes the mind only with materials of knowledge; it is thinking makes what we read ours. We are of the ruminating kind, and it is not enough to cram ourselves with a great load of collections; unless we chew them over again, they will not give us strength and nourishment. There are indeed in some writers visible instances of deep thoughts, close and acute reasoning, and ideas well pursued. The light these would give, would be of great use, if their readers would observe and imitate them; all the rest at best are but particulars fit to be

¹ The ability to read may be universal, and books may be cheap, and libraries be common and free, but unless reading is conducted with the aims and methods pointed out in this section, individuals and the community will profit little by common schools and public libraries. What to read and how to read, the press and the educator should point out.

turned into knowledge, but that can be done only by our own meditation, and examining the reach, force, and coherence of what is said ; and then, as far as we apprehend and see the connection of ideas, so far it is ours ; without that, it is but so much loose matter floating in our brain. The memory may be stored, but the judgment is little better, and the stock of knowledge not increased, by being able to repeat what others have said or produce the arguments we have found in them. Such a knowledge as this is but knowledge by hearsay, and the ostentation of it is at best but talking by rote, and very often upon weak and wrong principles. For all that is to be found in books is not built upon true foundations, nor always rightly deduced from the principles it is pretended to be built on. Such an examen as is requisite to discover that, every reader's mind is not forward to make ; especially in those who have given themselves up to a party, and only hunt for what they can scrape together that may favor and support the tenets of it. Such men wilfully exclude themselves from truth and from all true benefit to be received by reading. Others of more indifferency often want attention and industry. The mind is backward in itself to be at the pains to trace every argument to its original, and to see upon what basis it stands, and how firmly ; but yet it is this that gives so much the advantage to one man more than another in reading. The mind should, by severe rules, be tied down to this at first uneasy task ; use and exercise will give it facility. So that those who are accustomed to it, readily, as it were with one cast of the eye, take a view of the argument, and presently, in most cases, see where it bottoms. Those who have got this faculty, one may say, have got the true key of books, and the clue to lead them through the mizmaze [*maze or labyrinth*] of variety of opinions and authors to truth and certainty. This young beginners should be entered in, and showed the use of, that they might profit by their reading. Those who are strangers to it will be apt to think it too great a clog in the way of men's studies, and they will suspect they shall make but small progress, if, in the books they read, they must stand to examine and unravel every argument and follow it step by step up to its original.

I answer, this is a good objection, and ought to weigh with those whose reading is designed for much talk and little knowledge, and I have nothing to say to it. But I am here inquiring into the conduct of the understanding in its progress towards knowledge ; and to those who aim at that, I may say that he who fair and softly

goes steadily forward in a course that points right, will sooner be at his journey's end, than he that runs after every one he meets, though he gallop all day full speed.¹

To which let me add, that this way of thinking on and profiting by what we read will be a clog and rub to any one only in the beginning; when custom and exercise has made it familiar, it will be despatched, in most occasions, without resting or interruption in the course of our reading. The motions and views of a mind exercised that way are wonderfully quick; and a man, used to such sort of reflections, sees as much at one glimpse as would require a long discourse to lay before another and make out in an entire and gradual deduction. Besides that, when the first difficulties are over, the delight and sensible advantage it brings mightily encourages and enlivens the mind in reading, which without this is very improperly called study.

XXI. INTERMEDIATE PRINCIPLES.

As an help to this, I think it may be proposed that, for the saving the long progression of the thoughts to remote and first principles in every case, the mind should provide itself several stages; that is to say, intermediate principles,² which it might have recourse to in the examining those positions that come in its way. These, though they are not self-evident principles, yet, if they have been made out from them by a wary and unquestionable deduction, may be depended on as certain and infallible truths, and serve as unquestionable truths to prove other points depending on them by a nearer and shorter view than remote and general maxims. These may serve as landmarks to show what lies in the direct way of

¹ See Æsop's Fable of the Hare and the Tortoise. 'Hasten slowly,' with the face always in the right direction, is a good rule.

² These are those 'axiomata media' of which Bacon speaks, when he says: 'At media sunt axiomata illa vera et solida et viva, in quibus humane res et fortune sitae sunt.' Nov. Org., Bk. I. Aph. 104. They may be arrived at in two ways: either by an induction, through the 'axiomata infima,' from particulars; or by deduction from the 'suprema et generalissima axiomata,' only that, in this latter case, the higher axioms themselves must previously have been constituted as the result of a careful induction. Both Locke and Bacon give good advice, when they recommend men, as a general rule, not to run back their conclusions to first principles, but to be content with showing their dependence on nearer and intermediate principles, provided that these last be such as themselves admit of satisfactory proof. When men begin by enunciating some general and abstract principle, and then attach to it the particular conclusion which they wish us to receive, we may reasonably suspect that the intermediate links are wanting, and, any way, we should insist on having them supplied. On the other hand, the connection between the ultimate conclusion and the intermediate principle is often pretty obvious, and the intermediate principle may be one which most men, having any acquaintance with the subject, recognize as not itself requiring proof. The demonstrations in geometry are well cited by Locke as instances in point.

truth, or is quite besides it. And thus mathematicians do, who do not in every new problem run it back to the first axioms, through all the whole train of intermediate propositions. Certain theorems, that they have settled to themselves upon sure demonstration, serve to resolve to them multitudes of propositions which depend on them, and are as firmly made out from thence, as if the mind went afresh over every link of the whole chain that ties them to first self-evident principles. Only in other sciences great care is to be taken that they establish those intermediate principles with as much caution, exactness, and indifferency, as mathematicians use in the settling any of their great theorems. When this is not done, but men take up the principles in this or that science upon credit, inclination, interest, &c. in haste, without due examination and most unquestionable proof, they lay a trap for themselves, and as much as in them lies captivate their understandings to mistake, falsehood, and error.

XXII. PARTIALITY.

As there is a partiality to opinions, which, as we have already observed,¹ is apt to mislead the understanding, so there is often a partiality to studies, which is prejudicial also to knowledge and improvement. Those sciences which men are particularly versed in they are apt to value and extol, as if that part of knowledge which every one has acquainted himself with were that alone which was worth the having, and all the rest were idle and empty amusements, comparatively of no use or importance. This is the effect of ignorance and not knowledge, the being vainly puffed up with a flatulency arising from a weak and narrow comprehension. It is not amiss that every one should relish the science that he has made his peculiar study; a view of its beauties and a sense of its usefulness carries a man on with the more delight and warmth in the pursuit and improvement of it. But the contempt of all other knowledge, as if it were nothing in comparison of law or physic, of astronomy or chemistry, or perhaps some yet meaner part of knowledge, wherein I have got some smattering, or am somewhat advanced, is not only the mark of a vain or little mind, but does this prejudice in the conduct of the understanding, that it coops it up within narrow bounds, and hinders it from looking abroad into other provinces of the intellectual world, more beautiful possibly, and

¹ This section has much in common with the latter half of Section 19, 'On Universality.'

more fruitful than that which it had till then labored in ; wherein it might find, besides new knowledge, ways or hints whereby it might be enabled the better to cultivate its own.

XXIII. THEOLOGY.

There is indeed one science (as they are now distinguished) incomparably above all the rest, where it is not by corruption narrowed into a trade or faction, for mean or ill ends and secular interests ; I mean theology, which, containing the knowledge of God and his creatures, our duty to him and our fellow-creatures, and a view of our present and future state, is the comprehension of all other knowledge directed to its true end, i. e. the honor and veneration of the Creator and the happiness of mankind. This is that noble study which is every man's duty, and every one that can be called a rational creature is capable of. The works of nature and the words of revelation display it to mankind in characters so large and visible, that those who are not quite blind may in them read and see the first principles and most necessary parts of it ; and from thence, as they have time and industry, may be enabled to go on to the more abstruse parts of it, and penetrate into those infinite depths filled with the treasures of wisdom and knowledge. This is that science which would truly enlarge men's minds, were it studied, or permitted to be studied, everywhere with that freedom, love of truth and charity, which it teaches, and were not made, contrary to its nature, the occasion of strife, faction, malignity, and narrow impositions. I shall say no more here of this, but that it is undoubtedly a wrong use of my understanding to make it the rule and measure of another man's ; a use which it is neither fit for nor capable of.

XXIV. PARTIALITY.

This partiality,¹ where it is not permitted an authority to render all other studies insignificant or contemptible, is often indulged so far as to be relied upon and made use of in other parts of knowledge, to which it does not at all belong, and wherewith it has no manner of affinity. Some men have so used their heads to mathematical figures that, giving a preference to the methods of that science, they introduce lines and diagrams into their study of divinity

¹ The preceding section, on the importance and happiness of knowing God, in which Locke agrees with Plato and St. Augustine, is a digression inserted afterwards, as the order of the thought shows.

or politic inquiries, as if nothing could be known without them ; and others, accustomed to retired speculations, run natural philosophy into metaphysical notions and the abstract generalities of logic ; and how often may one meet with religion and morality treated of in the terms of the laboratory, and thought to be improved by the methods and notions of chemistry. But he that will take care of the conduct of his understanding, to direct it right to the knowledge of things, must avoid those undue mixtures, and not by a fondness for what he has found useful and necessary in one transfer it to another science, where it serves only to perplex and confound the understanding. It is a certain truth that *res nolunt male administrari* ; it is no less certain, *res nolunt male intelligi*. Things themselves are to be considered as they are in themselves, and then they will show us in what way they are to be understood. For to have right conceptions about them, we must bring our understandings to the inflexible natures and unalterable relations of things, and not endeavor to bring things to any preconceived notions of our own.

There is another partiality very commonly observable in men of study, no less prejudicial nor ridiculous than the former ; and that is a fantastical and wild attributing all knowledge to the ancients alone, or to the moderns. This raving upon antiquity in matter of poetry, Horace has wittily described and exposed in one of his satyrs.¹ The same sort of madness may be found in reference to all the other sciences. Some will not admit an opinion not author-

¹ Or, as the word would now be written, Satires. The Latin word is *Satura* or *Satira*, not *Satyra*, which is an incorrect form. The allusion must be to the Epistles, Bk. II. Ep. 1. The Epistles have often been regarded as continuations of the Satires.

The following version of a portion of the passage cited is by Creech.

‘ If length of time will better verse like wine,
Give it a brisker taste, and make it fine ;
Come tell me then, I would be gladly showed,
How many years will make a poem good ;
One poet writ an hundred years ago,
What, is he old, and therefore famed, or no ?
Or is he new, and therefore bold appears ?
Let ’s fix upon a certain term of years.
He ’s good that lived an hundred years ago,
Another wants but one, is he so too ?
Or is he new, and damned for that alone ?
Well, he ’s good too, and old that wants but one,
And thus I ’ll argue on, and bate one more,
And so by one and one waste all the store ;
And so confute him, who esteems by years,
A poem’s goodness from the date it bears,
Who not admires, nor yet approves a line
But what is old, and death hath made divine.’

ized by men of old, who were then all giants¹ in knowledge: nothing is to be put into the treasury of truth or knowledge, which has not the stamp of Greece or Rome upon it; and since their days will scarce allow that men have been able to see, think, or write. Others, with a like extravagancy, condemn all that the ancients have left us, and, being taken with the modern inventions and discoveries, lay by all that went before, as if whatever is called old must have the decay of time upon it, and truth too were liable to mould and rottenness.² Men, I think, have been much the same for natural endowments in all times. Fashion, discipline, and education have put eminent differences in the ages of several countries, and made one generation differ much from another in arts and sciences: but truth is always the same; time alters it not, nor is it the better or worse for being of ancient or modern tradition. Many were eminent in former ages of the world for their discovery and delivery of it; but though the knowledge they have left us be worth our study, yet they exhausted not all its treasure; they left a great deal for the industry and sagacity of after ages, and so shall we. That was once new to them which any one now receives with veneration for its antiquity; nor was it the worse for appearing as a novelty, and that which is now embraced for its newness will, to posterity, be old, but not thereby be less true or less genuine.³ There is no occasion on this account to oppose the ancients and the moderns to one another, or to be squeamish on either side. He that wisely conducts his mind in the pursuit of knowledge will

¹ A recent writer, Mr. Goldwin Smith, has somewhere remarked that we have measured the bones of these giants, and found them to be of the same length as our own.

² Bacon, in the *Novum Organum*, Bk. I. Aph. 56:—

‘*Reperiuntur ingenia alia in admirationem antiquitatis, alia in amorem et amplexum novitatis effusa; pauca vero ejus temperamenti sunt, ut modum tenere possint, quin aut quae recte posita sunt ab antiquis convellant, aut ea contemnant quae recte afferuntur a novis. Hoc vero magno scientiarum et philosophiae detrimento fit, quum studia potius sint antiquitatis et novitatis, quam judicia: veritas autem non a felicitate temporis alicujus, quae res varia est, sed a lumine naturae et experientiae, quod aeternum est, petenda est. Itaque abneganda sunt ista studia; et videndum, ne intellectus ab illis ad consensum abripiatur.*’

Which may be thus rendered:—

‘There are found some minds given to an extreme admiration of antiquity, others to an extreme love and appetite for novelty; but few so duly tempered that they can hold the mean, neither carping at what has been well laid down by the ancients, nor despising what is well introduced by the moderns. This, however, turns to the great injury of the sciences and philosophy, since these affectations of antiquity and novelty are the humors of partisans rather than judgments; and truth is to be sought for, not in the felicity of any age, which is an unstable thing, but in the light of nature and experience, which is eternal. These factions, therefore, must be abjured, and care must be taken that the intellect be not hurried by them into assent.’

³ Bacon (*Novum Organum*, Bk. I. Aph. 84) has some extremely striking remarks on the exaggerated love for antiquity, though it must be confessed that his own tendency was to err in the direction of unduly depreciating the merits of previous authors.

gather what lights and get what helps he can from either of them, from whom they are best to be had, without adoring the errors or rejecting the truths which he may find mingled in them.

Another partiality may be observed, in some to vulgar, in others to heterodox tenets: some are apt to conclude that what is the common opinion cannot but be true; so many men's eyes they think cannot but see right; so many men's understandings of all sorts cannot be deceived, and therefore [they] will not venture to look beyond the received notions of the place and age, nor have so presumptuous a thought as to be wiser than their neighbors. They are content to go with the crowd, and so go easily, which they think is going right, or at least serves them as well. But however *vox populi vox Dei* has prevailed as a maxim, yet I do not remember wherever God delivered his oracles by the multitude, or Nature truths by the herd. On the other side, some fly all common opinions as either false or frivolous. The title of many-headed beast is a sufficient reason to them to conclude that no truths of weight or consequence can be lodged there. Vulgar opinions are suited to vulgar capacities, and adapted to the ends of those that govern. He that will know the truth of things must leave the common and beaten track, which none but weak and servile minds are satisfied to trudge along continually in. Such nice palates relish nothing but strange notions quite out of the way: whatever is commonly received has the mark of the beast on it, and they think it a lessening to them to hearken to it, or receive it; their mind runs only after paradoxes; these they seek, these they embrace, these alone they vent, and so, as they think, distinguish themselves from the vulgar. But common or uncommon are not the marks to distinguish truth or falsehood, and therefore should not be any bias to us in our inquiries. We should not judge of things by men's opinions, but of opinions by things. The multitude reason but ill, and therefore may be well suspected, and cannot be relied on, nor should be followed as a sure guide; but philosophers who have quitted the orthodoxy of the community, and the popular doctrines of their countries, have fallen into as extravagant and as absurd opinions as ever common reception countenanced. It would be madness to refuse to breathe the common air, or quench one's thirst with water, because the rabble use them to these purposes; and, if there are conveniences of life which common use reaches not, it is not reason to reject them, because they are not grown into the ordinary fashion of the country, and every villager doth not know them.

Truth, whether in or out of fashion, is the measure of knowledge, and the business of the understanding ; whatsoever is besides that, however authorized by consent or recommended by rarity, is nothing but ignorance, or something worse.

Another sort of partiality there is, whereby men impose upon themselves, and by it make their reading little useful to themselves ; I mean the making use of the opinions of writers, and laying stress upon their authorities, wherever they find them to favor their own opinions.

There is nothing almost has done more harm to men dedicated to letters than giving the name of study to reading, and making a man of great reading to be the same with a man of great knowledge, or at least to be a title of honor. All that can be recorded in writing are only facts or reasonings. Facts are of three sorts : —

1. Merely of natural agents, observable in the ordinary operations of bodies one upon another, whether in the visible course of things left to themselves, or in experiments made by men applying agents and patients to one another, after a peculiar and artificial manner.¹

2. Of voluntary agents, more especially the actions of men in society, which makes civil and moral history.

3. Of opinions.

In these three consists, as it seems to me, that which commonly has the name of learning ; to which perhaps some may add a distinct head of critical writings, which indeed at bottom is nothing but matter of fact, and resolves itself into this, that such a man, or set of men, used such a word or phrase in such a sense, i. e. that they made such sounds the marks of such ideas.

Under reasonings I comprehend all the discoveries of general truths made by human reason, whether found by intuition, demon-

¹ The distinction here drawn is that between observation and experiment. In his *Inductive Logic* (ch. 2, § 1), Prof. Fowler distinguishes between these processes as follows : 'To *observe* is to watch with attention phenomena as they occur, to *experiment* (or, to adopt more ordinary language, to *perform an experiment*) is, not only to observe, but also to place the phenomena under peculiarly favorable circumstances, as a preliminary to observation. Thus, every experiment implies an observation, but it also implies something more. In an experiment, I arrange or create the circumstances under which I wish to make my observation. Thus, if two bodies are falling to the ground, and I attend to the phenomenon, I am said to *observe* it ; but if I place the bodies under the exhausted receiver of an air-pump, or cause them to be dropped under any special circumstances whatever, I may be said not only to make an observation, but also to perform an experiment. Bacon has not inaptly compared experiment with the torture of witnesses. Mr. Mill distinguishes between the two processes, by saying that in observation we *find* our instance in nature, in experiment we *make* it by an artificial arrangement of circumstances.'

stration, or probable deductions. And this is that which is, if not alone knowledge (because the truth or probability of particular propositions may be known too), yet is, as may be supposed, most properly the business of those who pretend to improve their understandings and make themselves knowing by reading.

Books and reading are looked upon to be the great helps of the understanding and instruments of knowledge, as it must be allowed that they are; and yet I beg leave to question whether these do not prove an hindrance to many, and keep several bookish men from attaining to solid and true knowledge. This, I think, I may be permitted to say, that there is no part wherein the understanding needs a more careful and wary conduct than in the use of books; without which they will prove rather innocent amusements than profitable employments of our time, and bring but small additions to our knowledge.

There is not seldom to be found even amongst those who aim at knowledge, who with an unwearied industry employ their whole time in books, who scarce allow themselves time to eat or sleep, but read, and read, and read on, but yet make no great advances in real knowledge, though there be no defect in their intellectual faculties to which their little progress can be imputed.¹ The mistake here is, that it is usually supposed that, by reading, the author's knowledge is transfused into the reader's understanding; and so it is, but not by bare reading, but by reading and understanding what he writ. Whereby I mean, not barely comprehending what is affirmed or denied in each proposition (though that great readers do not always think themselves concerned precisely to do), but to see and follow the train of his reasonings, observe the strength and clearness of their connection, and examine upon what they bottom. Without this, a man may read the discourses of a very rational author, writ in a language and in propositions that he very well understands, and yet acquire not one jot of his knowledge; which consisting only in the perceived, certain, or probable connection of the ideas made use of in his reasonings, the reader's knowledge is no farther increased than he perceives that so much as he sees of this connection, so much he knows of the truth or probability of that author's opinions.

All that he relies on without this perception, he takes upon trust

¹ Here again we have an unrevised sentence, which cannot be construed grammatically. The sentence might, perhaps, be recast thus: 'There are not seldom to be found even amongst such as aim . . . men who make,' &c.

upon the author's credit, without any knowledge of it at all. This makes me not at all wonder to see some men so abound in citations, and build so much upon authorities,¹ it being the sole foundation on which they bottom most of their own tenets; so that in effect they have but a second-hand or implicit knowledge, i. e. are in the right, if such an one from whom they borrowed it were in the right in that opinion which they took from him, which indeed is no knowledge at all. Writers of this or former ages may be good witnesses of matters of fact which they deliver, and which we may do well to take upon their authority; but their credit can go no farther than this, it cannot at all affect the truth and falsehood of opinions, which have no other sort of trial but reason and proof, which they themselves made use of to make themselves knowing, and so must others too that will partake in their knowledge. Indeed it is an advantage that they have been at the pains to find out the proofs, and lay them in that order that may show the truth or probability of their conclusions; and for this we owe them great acknowledgments for saving us the pains in searching out those proofs which they have collected for us, and which possibly, after all our pains, we might not have found, nor been able to have set them in so good a light as that which they left them us in. Upon this account we are mightily beholden to judicious writers of all ages for those discoveries and discourses they have left behind them for our instruction, if we know how to make a right use of them; which is not to run them over in a hasty perusal, and perhaps lodge their opinions or some remarkable passages in our memories, but to enter into their reasonings, examine their proofs, and then judge of the truth or falsehood, probability or improbability of what they advance, not by any opinion we have entertained of the author, but by the evidence he produces and the conviction he affords us, drawn from things themselves. Knowing is seeing, and, if it be so, it is madness to persuade ourselves that we do so by another man's eyes, let him use ever so many words to tell us that what he asserts is very visible. Till we ourselves see it with our own eyes, and perceive it by our own understandings, we are as much in the dark and as void of knowledge as before, let us believe any learned author as much as we will.

Euclid and Archimedes are allowed to be knowing, and to have demonstrated what they say; and yet, whoever shall read over

¹ On the illegitimate employment of the Argument from Authority, see Fowler's *Inductive Logic*, ch. 6, 3d ed., pp. 285-293.

their writings without perceiving the connection of their proofs, and seeing what they show, though he may understand all their words, yet he is not the more knowing: he may believe indeed, but does not know what they say, and so is not advanced one jot in mathematical knowledge by all his reading of those approved mathematicians.

XXV. HASTE.

The eagerness and strong bent of the mind after knowledge, if not warily regulated, is often an hindrance to it. It still presses into farther discoveries and new objects, and catches at the variety of knowledge, and therefore often stays not long enough on what is before it to look into it as it should, for haste to pursue what is yet out of sight. He that rides post through a country may be able, from the transient view, to tell how in general the parts lie, and may be able to give some loose description of here a mountain and there a plain, here a morass and there a river, woodland in one part and savannas [*prairie*] in another. Such superficial ideas and observations as these he may collect in galloping over it. But the more useful observations of the soil, plants, animals, and inhabitants, with their several sorts and properties, must necessarily escape him; and it is seldom men ever discover the rich mines, without some digging. Nature commonly lodges her treasure and jewels in rocky ground. If the matter be knotty, and the sense lies deep, the mind must stop and buckle to it, and stick upon it with labor and thought and close contemplation, and not leave it till it has mastered the difficulty, and got possession of truth. But here care must be taken to avoid the other extreme: a man must not stick at every useless nicety, and expect mysteries of science in every trivial question or scruple that he may raise. He that will stand to pick up and examine every pebble that comes in his way is as unlikely to return enriched and loaden with jewels, as the other that travelled full speed. Truths are not the better nor the worse for their obviousness or difficulty, but their value is to be measured by their usefulness and tendency. Insignificant observations should not take up any of our minutes, and those that enlarge our view, and give light towards farther and useful discoveries, should not be neglected, though they stop our course, and spend some of our time in a fixed attention.

There is another haste that does often and will mislead the mind, if it be left to itself and its own conduct. The understanding is

naturally forward, not only to learn its knowledge by variety (which makes it skip over one to get speedily to another part of knowledge), but also eager to enlarge its views by running too fast into general observations and conclusions, without a due examination of particulars enough whereon to found those general axioms.¹ This seems to enlarge their stock, but it is of fancies not realities; such theories built upon narrow foundations stand but weakly, and, if they fall not of themselves, are at least very hard to be supported against the assaults of opposition. And thus men, being too hasty to erect to themselves general notions and ill-grounded theories, find themselves deceived in their stock of knowledge, when they come to examine their hastily assumed maxims themselves, or to have them attacked by others. General observations drawn from particulars are the jewels of knowledge, comprehending great store in a little room; but they are therefore to be made with the greater care and caution, lest, if we take counterfeit for true, our loss and shame be the greater when our stock comes to a severe scrutiny. One or two particulars may suggest hints of inquiry,² and they do well to take those hints; but if they turn them into conclusions, and make them presently general rules, they are forward indeed, but it is only to impose on themselves by propositions assumed for truths without sufficient warrant. To make such observations is, as has been already remarked,³ to make the head a magazine of materials

¹ Here again Locke is on ground thoroughly familiar to the readers of the *Novum Organum*. See, for instance, amongst many other places, Bk. I. Aphs. 19-26. There can be no doubt that Locke is indebted to Bacon both for the thought and language of this passage. Cp., for instance, the following sentences in Aphs. 24, 25: 'Axiomata, quae in usu sunt, ex tenui et manipulari experientia, et paucis particularibus, quae ut plurimum occurrunt, fluxere; et sunt fere ad mensuram eorum facta et extensa: ut nil mirum sit, si ad nova particularia non ducant.' 'Sed axiomata, a particularibus rite et ordine abstracta, nova particularia rursus facile indicant et designant.'

'The axioms now in use, having been suggested by a scanty and manipular experience and a few particulars of most general occurrence, are made for the most part just large enough to fit and take these in; and therefore it is no wonder if they do not lead to new particulars.' But axioms duly and orderly formed from particulars easily discover the way to new particulars.'

² Or, in more technical language, may suggest hypotheses or provisional explanations. One or two instances may often put us on the scent, and lead us to some provisional theory, which further inquiry may either confirm, modify, or disprove. A hypothesis, started on these slender grounds, should always be held loosely, and we should constantly be on the lookout for further facts bearing upon it, whether favorable or unfavorable. What, however, frequently happens is that, when a hypothesis has been once formed, all the facts which support it are carefully noted, while those which are unfavorable to it are ignored.

³ See Section 13, and cp. Section 20. Locke's meaning in this sentence is not very clear. The clause beginning 'To make such observations' seems to allude to the habit of merely collecting particulars without basing conclusions on them, whereas the clause beginning 'and he that makes everything an observation' seems to allude to the habit of generalizing on insufficient data.

which can hardly be called knowledge, or at least it is but like a collection of lumber not reduced to use or order; and he that makes everything an observation has the same useless plenty and much more falsehood mixed with it. The extremes on both sides are to be avoided, and he will be able to give the best account of his studies who keeps his understanding in the right mean between them.

XXVI. ANTICIPATION.

Whether it be a love of that which brings the first light and information to their minds, and want of vigor and industry to inquire, or else that men content themselves with any appearance of knowledge, right or wrong, which, when they have once got, they will hold fast: this is visible, that many men give themselves up to the first anticipations of their minds,¹ and are very tenacious of the opinions that first possess them; they are often as fond of their first conceptions as of their first born, and will by no means recede from the judgment they have once made, or any conjecture or conceit which they have once entertained. This is a fault in the conduct of the understanding, since this firmness or rather stiffness of the mind is not from an adherence to truth, but a submission to prejudice. It is an unreasonable homage paid to prepossession, whereby we show a reverence not to (what we pretend to seek) truth; but what by haphazard we chance to light on, be it what it will. This is visibly a preposterous use of our faculties, and is a downright prostituting of the mind to resign it thus, and put it under the power of the first comer. This can never be allowed or ought to be followed as a right way to knowledge, till the understanding (whose business it is to conform itself to what it finds on the objects without) can by its own opiniatry change that, and make the unalterable nature of things comply with its own hasty determinations, which will never be. Whatever we fancy, things keep their course; and their habitudes, correspondences, and relations keep the same to one another.

XXVII. RESIGNATION.

Contrary to these, but by a like dangerous excess on the other side, are those who always resign their judgment to the last man they heard or read. Truth never sinks into these men's minds, nor gives any tincture to them, but, chameleon-like, they take the color

¹ Bacon's expression, 'anticipationes mentis.'

of what is laid before them, and as soon lose and resign it to the next that happens to come in their way. The order wherein opinions are proposed or received by us is no rule of their rectitude, nor ought to be a cause of their preference. First or last in this case is the effect of chance, and not the measure of truth or falsehood. This every one must confess, and therefore should, in the pursuit of truth, keep his mind free from the influence of any such accidents.¹ A man may as reasonably draw cuts for his tenets, regulate his persuasion by the cast of a die, as take it up for its novelty, or retain it because it had his first assent and he was never of another mind. Well-weighed reasons are to determine the judgment; those the mind should be always ready to hearken and submit to, and by their testimony and suffrage entertain or reject any tenet indifferently, whether it be a perfect stranger or an old acquaintance.

XXVIII. PRACTICE.

Though the faculties of the mind are improved by exercise, yet they must not be put to a stress beyond their strength. *Quid valent humeri, quid ferre recusent*,² must be made the measure of every one's understanding, who has a desire not only to perform well, but to keep up the vigor of his faculties, and not to balk his understanding by what is too hard for it. The mind by being engaged in a task beyond its strength, like the body strained by lifting at a weight too heavy, has often its force broken, and thereby gets an unaptness or an aversion to any vigorous attempt ever after. A sinew cracked seldom recovers its former strength, or at least the tenderness of the sprain remains a good while after, and the memory of it longer, and leaves a lasting caution in the man not to put the part quickly again to any robust employment. So it fares in the mind once jaded by an attempt above its power; it either is disabled for the future, or else checks at any vigorous undertaking ever after, at least is very hardly brought to exert its force again on any subject that requires thought and meditation. The understanding should be brought to the difficult and knotty parts of knowledge, that try the strength of thought and a full bent of the mind, by insensible degrees; and in such a gradual proceeding nothing is too hard for it. Nor let it be objected, that such a slow

¹ Plato observes: 'We should hold our minds free to be carried whithersoever we may by the stream of our reasoning.'

² Horace, *Ars Poetica*, ll. 39, 40:

'Et versate diu, quid ferre recusent,
Quid valeant humeri.'

progress will never reach the extent of some sciences. It is not to be imagined how far constancy will carry a man; however, it is better walking slowly in a rugged way, than to break a leg and be a cripple. He that begins with the calf may carry the ox; but he that will at first go to take up an ox, may so disable himself, as not [to] be able to lift a calf after that.¹ When the mind, by insensible degrees, has brought itself to attention and close thinking, it will be able to cope with difficulties, and master them without any prejudice to itself, and then it may go on roundly. Every abstruse problem, every intricate question, will not baffle, discourage, or break it. But though putting the mind unprepared upon an unusual stress that may discourage or damp it for the future ought to be avoided, yet this must not run it, by an over-great shyness of difficulties, into a lazy sauntering about ordinary and obvious things that demand no thought or application. This debases and enervates the understanding, makes it weak and unfit for labor. This is a sort of hovering about the surface of things, without any insight into them or penetration; and, when the mind has been once habituated to this lazy recumbency and satisfaction on the obvious surface of things, it is in danger to rest satisfied there, and go no deeper, since it cannot do it without pains and digging. He that has for some time accustomed himself to take up with what easily offers itself at first view, has reason to fear he shall never reconcile himself to the fatigue of turning and tumbling things in his mind to discover their more retired and more valuable secrets.

It is not strange that methods of learning, which scholars have been accustomed to in their beginning and entrance upon the sciences, should influence them all their lives, and be settled in their minds by an overruling reverence, especially if they be such as universal use has established. Learners must at first be believers, and, their masters' rules having been once made axioms to them, it is no wonder they should keep that dignity,² and, by the authority they have once got, mislead those who think it sufficient to excuse them, if they go out of their way [*astray or wrong*] in a well-beaten track.

¹ Horace, *Ars Poetica*, l. 394: —

‘And often try what weight you can support,
And what your shoulders are too weak to bear.’

Milton, in his *Tractate on Education*, condemns the practice of ‘forcing the empty wits of children to compose themes, verses, and orations, which are acts of ripest judgment, and the final work of a head filled by long reading and observing, with elegant maxims and copious inventions.’

² Dignitas is one of the synonyms for axiom. This use of the word goes back as far as the times of Priscian and Boethius, while Latin was still a living language.

XXIX. WORDS.

I have copiously enough spoken of the abuse of words in another place [Essay iv. c. 10], and therefore shall upon this reflection, that the sciences are full of them, warn those that would conduct their understandings right, not to take any term, howsoever authorized by the language of the schools, to stand for anything till they have an idea of it. A word may be of frequent use and great credit with several authors, and be by them made use of, as if it stood for some real being; but yet if he that reads cannot frame any distinct idea of that being, it is certainly to him a mere empty sound without a meaning, and he learns no more by all that is said of it or attributed to it, than if it were affirmed only of that bare empty sound. They who would advance in knowledge, and not deceive and swell themselves with a little articulated air, should lay down this as a fundamental rule, not to take words for things, nor suppose that names in books signify real entities in nature, till they can frame clear and distinct ideas of those entities. It will not perhaps be allowed if I should set down *substantial forms* and *intentional species*,¹ as such that may justly be suspected to be of this kind of insignificant [*non-significant*] terms. But this I am sure, to one that can form no determined ideas of what they stand for, they signify nothing at all; and all that he thinks he knows about them is to him so much knowledge about nothing, and amounts at most but to a learned ignorance. It is not without all reason supposed, that there are many such empty terms to be found in some learned writers, to which they had recourse to etch out [*complete*] their systems where their understandings could not furnish them with conceptions from things.

¹ The *substantial form* was regarded as that occult principle which, actuating, as it were, matter, produced the distinctive manifestations of any particular class of Substances. Thus, the 'rational soul' (*anima rationalis*) is the 'substantial form' of man.

Intentional species were supposed to be certain images or similitudes intermediate between the outward object and the percipient mind. They *represented* to the mind, it was thought, the various qualities as they existed in the object. They were called *species* (εἶδη), that is, forms or appearances, because they were regarded as representative of the external reality; *intentional* (from *intentio animi*), that is, notional, in order to distinguish them from material and wholly objective appearances. They were supposed to be neither merely affections of external objects nor merely modifications of the mind, but a something mediating between mind and matter, and thus enabling the former to become acquainted with the latter. On this conception, and on the distinction between sensible and intelligible species, *species impressae* and *species expressae*, see Hamilton's Reid, pp. 952-957. It must be acknowledged that traces of this doctrine are to be found even in Locke's Essay; for he sometimes seems to speak of 'ideas,' as if they were not merely mental modifications, but a *tertium quid*, a something intermediate between external objects and the mind. See, for instance, Essay, Bk. II. ch. 1, § 25; Bk. IV. ch. 21, § 4.

But yet I believe the supposing of some realities in nature, answering those and the like words, have much perplexed some, and quite misled others in the study of nature. That which in any discourse signifies *I know not what*, should be considered *I know not when*.¹ Where men have any conceptions, they can, if they are ever so abstruse or abstracted, explain them, and the terms they use for them. For our conceptions being nothing but ideas, which are all made up of simple ones,² if they cannot give us the ideas their words stand for, it is plain they have none. To what purpose can it be to hunt after his conceptions, who has none, or none distinct? He that knew not what he himself meant by a learned term, cannot make us know anything by his use of it, let us beat our heads about it ever so long. Whether we are able to comprehend all the operations of nature and the manners of them, it matters not to inquire; but this is certain, that we can comprehend no more of them than we can distinctly conceive; and therefore to obtrude terms where we have no distinct conceptions, as if they did contain or rather conceal something, is but an artifice of learned vanity, to cover a defect in an hypothesis or our understandings. Words are not made to conceal, but to declare and show something; where they are by those, who pretend to instruct, otherwise used, they conceal indeed something, but that which they conceal is nothing but the ignorance, error, or sophistry of the talker, for there is, in truth, nothing else under them.

XXX. WANDERING.

That there is a constant succession and flux of ideas in our minds, I have observed in the former part of this essay, and every one may take notice of it in himself. This I suppose may deserve some part of our care in the conduct of our understandings; and I think it may be of great advantage, if we can by use get that power over our minds as to be able to direct that train of ideas, that so, since there will new ones perpetually come into our thoughts by a constant succession, we may be able by choice so to direct them, that none may come in view, but such as are pertinent to our present inquiry, and in such order as may be most useful to the discovery

¹ Locke constantly speaks in the Essay of the idea of Substance as of a 'something I know not what.' The remark in the text, it is almost needless to point out, affords a good instance of Locke's felicitous way of stating homely truths.

² See Essay, Bk. II. chs. 1, 2.

Bishop Berkeley treats of the same subject in his Introduction to the *Principles of Human Knowledge*.

we are upon; or at least, if some foreign and unsought ideas will offer themselves, that yet we might be able to reject them, and keep them from taking off our minds from its present pursuit, and hinder them from running away with our thoughts quite from the subject in hand. This is not, I suspect, so easy to be done as perhaps may be imagined; and yet, for aught I know, this may be, if not the chief, yet one of the great differences that carry some men in their reasoning so far beyond others, where they seem to be naturally of equal parts. A proper and effectual remedy for this wandering of thoughts I would be glad to find. He that shall propose such an one would do great service to the studious and contemplative part of mankind, and perhaps help unthinking men to become thinking. I must acknowledge that hitherto I have discovered no other way to keep our thoughts close to their business, but the endeavoring as much as we can, and by frequent attention and application getting the habit of attention and application. He that will observe children, will find that, even when they endeavor their uttermost, they cannot keep their minds from straggling.¹ The way to cure it, I am satisfied, is not angry chiding or beating, for that presently fills their heads with all the ideas that fear, dread, or confusion can offer to them. To bring back gently their wandering thoughts, by leading them into the path and going before them in the train they should pursue, without any rebuke, or so much as taking notice (where it can be avoided) of their roving, I suppose would sooner reconcile and inure them to attention, than all those rougher methods which more distract their thought, and, hindering the application they would promote, introduce a contrary habit.²

XXXI. DISTINCTION.

Distinction and division³ are (if I mistake not the import of the words) very different things: the one being the perception of a

¹ Sections (123–127) on Sauntering, in the Thoughts concerning Education.

² Bishop Patrick, in his *Advice to a Friend*, has a passage to the same purpose, in reference to the difficulty of compelling ourselves to religious meditation.

³ Locke's meaning in this Section is not always very clear, but I cannot doubt that what he intends to commend is *Division*, 'the perception of a difference that nature has placed in things,' while what he wishes to caution his readers against is over-subtlety in *Distinction*. The determination of the various subject-classes which are included under any higher class, like the reverse process of grouping lower classes under some higher class ('generalization'), is a logical process indispensable to any complicated act of reasoning. Any man who can analyze his thoughts will find that he is performing both these processes all day long. Distinction is also a process of the greatest utility, but it is not employed to nearly the same extent as division, and, if words and sentences were properly constructed, it would not be

difference that nature has placed in things ; the other our making a division where there is yet none. At least, if I may be permitted to consider them in this sense, I think I may say of them, that one of them is the most necessary and conducive to true knowledge that can be ; the other, when too much made use of, serves only to puzzle and confound the understanding. To observe every the least difference that is in things argues a quick and clear sight, and this keeps the understanding steady and right in its way to knowledge. But though it be useful to discern every variety that is to be found in nature, yet it is not convenient to consider every difference that is in things, and divide them into distinct classes under every such difference. This will run us, if followed, into particulars (for every individual has something that differences it from another), and we shall be able to establish no general truths, or else at least shall be apt to perplex the mind about them. The collection of several things into several classes gives the mind more general and larger views ; but we must take care to unite them only in that, and so far as they do agree, for so far they may be united under the consideration. For entity itself, that comprehends all things, as general as it is, may afford us clear and rational conceptions. If we would well weigh and keep in our minds what it is we are considering, that would best instruct us when we should or should not branch into farther distinctions, which are to be taken only from a due contemplation of things ; to which there is nothing more opposite than the art of verbal distinctions, made at pleasure, in learned and arbitrarily invented terms to be applied at a venture, without comprehending or conveying any distinct notions, and so altogether fitted to artificial talk or empty noise in dispute, without any clearing of difficulties or advance in knowledge. Whatsoever subject we examine and would get knowledge in, we should, I think, make as

required at all. We must recollect, in reading this Section, that Locke has an eye to the 'Disputations,' which were so common in the Universities in his time, the method of which largely affected the controversial, and especially the theological, writings of his contemporaries. In these disputations, the distinctions were often of the most frivolous and shadowy character, being, in fact, 'distinctions without differences.' It is against the waste of time and 'puzzling of the understanding' involved in such useless and over-subtle distinctions that Locke is here mainly protesting, though it cannot escape his notice that the process of division may similarly be overstrained, either by recognizing too minute shades of difference in constituting the subject-classes or by needlessly increasing the number of steps in the descending process of subdivision. Hence, a certain amount of confusion is produced in this Section by considering together, and apparently not always carefully distinguishing between, the two faults of over-subtlety in distinction and over-minuteness in division. Both of these faults were more common in Locke's time than in our own, but they are still common enough to render the warnings of this section not altogether superfluous to the modern reader.

general and as large as it will bear ; nor can there be any danger of this, if the idea of it be settled and determined : for, if that be so, we shall easily distinguish it from any other idea, though comprehended under the same name. For it is to fence against the entanglements of equivocal words, and the great art of sophistry which lies in them, that distinctions have been multiplied, and their use thought necessary. But had every distinct abstract idea a distinct known name, there would be little need of these multiplied scholastic distinctions, though there would be nevertheless as much need still of the mind's observing the differences that are in things, and discriminating them thereby one from another.¹ It is not, therefore the right way to knowledge, to hunt after, and fill the head with, abundance of artificial and scholastic distinctions, wherewith learned men's writings are often filled ; and we sometimes find what they treat of so divided and subdivided, that the mind of the most attentive reader loses the sight of it, as it is more than probable the writer himself did ; for in things crumbled into dust it is in vain to affect or pretend order, or expect clearness. To avoid confusion by too few or too many divisions, is a great skill in thinking as well as writing, which is but the copying our thoughts ; but what are the boundaries of the mean between the two vicious excesses on both hands, I think is hard to set down in words ; clear and distinct ideas is all that I yet know able to regulate it. But as to verbal distinctions received and applied to common terms, i. e. equivocal words, they are more properly, I think, the business of criticism and dictionaries than of real knowledge and philosophy, since they, for the most part, explain the meaning of words, and give us their several significations. The dexterous management of terms, and being able to *fend* and *prove* with them, I know has and does pass in the world for a great part of learning ; but it is learning distinct from knowledge, for knowledge consists only in perceiving the habitudes and relations of ideas one to another, which is done without words ; the intervention of a sound helps nothing to it. And hence we see that there is least use of distinctions where there is most knowledge ; I mean in mathematics, where men have determined ideas with known names to them ; and so there being no room for equivocations, there is no need of distinctions. In arguing, the opponent uses as comprehensive and equivocal terms as he can, to involve his adversary in the doubtfulness of his expres-

¹ That is to say, there would no longer be any need of distinctions, but there would still be need of divisions.

sions: this is expected, and therefore the answerer on his side makes it his play to distinguish as much as he can, and thinks he can never do it too much; nor can he indeed in that way wherein victory may be had without truth and without knowledge. This seems to me to be the art of disputing. Use your words as cap-tiously as you can in your arguing on one side, and apply distinctions as much as you can, on the other side, to every term, to nonplus your opponent; so that in this sort of scholarship, there being no bounds set to distinguishing, some men have thought all acuteness to have lain in it; and therefore in all they have read or thought on, their great business has been to amuse themselves with distinctions, and multiply to themselves divisions, at least more than the nature of the thing required. There seems to me, as I said, to be no other rule for this, but a due and right consideration of things as they are in themselves. He that has settled in his mind determined ideas, with names affixed to them, will be able both to discern their differences one from another, which is really distinguishing; and, where the penury of words affords not terms answering every distinct idea, will be able to apply proper distinguishing terms to the comprehensive and equivocal names he is forced to make use of. This is all the need I know of distinguishing terms; and, in such verbal distinctions, each term of the distinction, joined to that whose signification it distinguishes, is but a distinct name for a distinct idea. Where they are so, and men have clear and distinct conceptions that answer their verbal distinctions, they are right, and are pertinent as far as they serve to clear anything in the subject under consideration. And this is that which seems to me the proper and only measure of distinctions and divisions; which he that will conduct his understanding right must not look for in the acuteness of invention, nor the authority of writers, but will find only in the consideration of things themselves, whether they are led into it by their own meditations or the information of books.

An aptness to jumble things together, wherein can be found any likeness, is a fault in the understanding on the other side, which will not fail to mislead it, and, by thus lumping of things, hinder the mind from distinct and accurate conceptions of them.¹

¹ On the tendency of the mind to note differences rather than resemblances, or resemblances rather than differences, one of the instances of the *idola specus*, there is an admirable aphorism in the *Novum Organum*: ‘Maximum et velut radicale discrimen ingeniorum, quoad philosophiam et scientias, illud est: quod alia ingenia sint fortiora et aptiora ad notandas rerum differentias; alia, ad notandas rerum similitudines. Ingenia enim constantia et acuta

XXXII. SIMILES.

To which let me here add another near of kin to this, at least in name, and that is, letting the mind, upon the suggestion of any new notion, run immediately after similes to make it the clearer to itself; which, though it may be a good way and useful in the explaining our thoughts to others, yet it is by no means a right method to settle true notions of anything in ourselves, because similes always fail in some part, and come short of that exactness which our conceptions should have to things, if we would think aright.¹ This indeed makes men plausible talkers; for those are always most acceptable in discourse, who have the way to let their thoughts into other men's minds with the greatest ease and facility. Whether those thoughts are well formed and correspond with things, matters not; few men care to be instructed but at an easy rate. They who in their discourse strike the fancy, and take the hearers' conceptions along with them as fast as their words flow, are the applauded talkers, and go for the only men of clear thoughts. Nothing contributes so much to this as similes, whereby men think they themselves understand better, because they are better understood. But it is one thing to think right, and another thing to know the right way to lay our thoughts before others with advantage and clearness, be they right or wrong. Well-chosen similes, metaphors, and allegories, with method and order, do this the best of anything, because, being taken from objects already known and familiar to the understanding, they are conceived as fast as spoken; and, the correspondence being concluded, the thing they are brought to explain and elucidate is thought to be understood too. Thus fancy passes for knowledge, and what is prettily said is mistaken for solid. I say not this to decry metaphor, or with design to take away that

figere contemplationes, et morari, et haerere in omni subtilitate differentiarum possunt: ingenia autem sublimia et discursiva etiam tenuissimas et catholicas rerum similitudines et agnoscunt et componunt: utrumque autem ingenium facile labitur in excessum, prensando aut gradus rerum, aut umbras.' — *Novum Organum*, Bk. I. Aph. 55.

'There is one principal and as it were radical distinction between different minds, in respect of philosophy and the sciences, which is this: that some minds are stronger and apter to mark the differences of things, others to mark their resemblances. The steady and acute mind can fix on the subtlest distinctions; the lofty and discursive mind recognizes and puts together the most general resemblances. Both kinds easily run into excess, by catching the one at gradations, the other at shadows.'

¹ A simile or metaphor may often be most appropriately used for the purpose of illustrating or enforcing an argument, but it should never be used in lieu of an argument. 'How does this simile apply to the case in point, and what is the argument which it is meant to illustrate,' are questions which should always be asked, when a simile, metaphor, or allegory is employed. From want of putting these questions, men often deceive, not only others, but themselves.

ornament of speech ; my business here is not with rhetoricians and orators, but with philosophers and lovers of truth ; to whom I would beg leave to give this one rule whereby to try whether, in the application of their thoughts to anything for the improvement of their knowledge, they do in truth comprehend the matter before them really such as it is in itself. The way to discover this is to observe whether, in the laying it before themselves or others, they make use *only* of borrowed representations and ideas foreign to the thing, which are applied to it by way of accommodation, as bearing some proportion or imagined likeness to the subject under consideration.¹ Figured and metaphorical expressions do well to illustrate more abstruse and unfamiliar ideas which the mind is not yet thoroughly accustomed to ; but then they must be made use of to illustrate ideas that we already have, not to paint to us those which we yet have not. Such borrowed and allusive ideas may follow real and solid truth, to set it off when found, but must by no means be set in its place and taken for it. If all our search has yet reached no farther than simile and metaphor, we may assure ourselves we rather fancy than know, and are not yet penetrated into the inside and reality of the thing, be it what it will, but content ourselves with what our imaginations, not things themselves, furnish us with.

XXXIII. ASSENT.²

In the whole conduct of the understanding, there is nothing of more moment than to know when, and where, and how far, to give assent, and possibly there is nothing harder. It is very easily said, and nobody questions it, that giving and withholding our assent, and the degrees of it, should be regulated by the evidence which things carry with them ; and yet we see men are not the better for this rule ; some firmly embrace doctrines upon slight grounds, some upon no grounds, and some contrary to appearance. Some admit of certainty, and are not to be moved in what they hold : others waver in everything, and there want not those that reject all as uncertain.³ What then shall a novice, an inquirer, a stranger do in the case ? I answer, use his eyes. There is a correspondence in things, and agreement and disagreement in ideas, discernible in

¹ This sentence is somewhat involved. The emphatic word in it is *only*. 'Which' refers to the 'borrowed representations' and 'foreign ideas.'

² The student should read the chapters on Probability and Degrees of Assent in the Essay. See Bk. IV. chs. 15, 16.

³ Like the two ancient sects of the New Academy and the Ephectici (Pyrrhonists or Sceptics).

very different degrees, and there are eyes in men to see them if they please, only their eyes may be dimmed or dazzled, and the discerning sight in them impaired or lost. Interest and passion dazzle, the custom of arguing on any side, even against our persuasions, dims the understanding, and makes it by degrees lose the faculty of discerning clearly between truth and falsehood, and so of adhering to the right side. It is not safe to play with error, and dress it up to ourselves or others in the shape of truth. The mind by degrees loses its natural relish of real solid truth, is reconciled insensibly to anything that can but be dressed up into any faint appearance of it; and, if the fancy be allowed the place of judgment at first in sport, it afterwards comes by use to usurp it, and what is recommended by this flatterer (that studies but to please) is received for good. There are so many ways of fallacy, such arts of giving colors, appearances, and resemblances by this court dresser, the fancy, that he who is not wary to admit nothing but truth itself, very careful not to make his mind subservient to anything else, cannot but be caught. He that has a mind to believe, has half assented already; and he that, by often arguing against his own sense, imposes falsehoods on others, is not far from believing himself. This takes away the great distance there is betwixt truth and falsehood; it brings them almost together, and makes it no great odds, in things that approach so near, which you take; and when things are brought to that pass, passion, or interest, &c. easily, and without being perceived, determine which shall be the right.

XXXIV. INDIFFERENCY.

I have said above [Section XI.] that we should keep a perfect indifferency for all opinions, not wish any of them true, or try to make them appear so; but, being indifferent, receive and embrace them according as evidence, and that alone, gives the attestation of truth. They that do thus, i. e. keep their minds indifferent to opinions, to be determined only by evidence, will always find the understanding has perception enough to distinguish between evidence or no evidence, betwixt plain and doubtful; and if they neither give nor refuse their assent but by that measure, they will be safe in the opinions they have. Which being perhaps but few, this caution will have also this good in it, that it will put them upon considering, and teach them the necessity of examining more than they do; without which the mind is but a receptacle of inconsistencies, not the storehouse of truths. They that do not keep up

this indifferency in themselves for all but truth, not supposed, but evidenced in themselves, put colored spectacles before their eyes, and look on things through false glasses, and then think themselves excused in following the false appearances which they themselves put upon them. I do not expect that by this way the assent should in every one be proportioned to the grounds and clearness where-with every truth is capable to be made out, or that men should be perfectly kept from error : that is more than human nature can by any means be advanced to. I aim at no such unattainable privilege. I am only speaking of what they should do who would deal fairly with their own minds, and make a right use of their faculties in the pursuit of truth. We fail them a great deal more than they fail us. It is mismanagement more than want of abilities that men have reason to complain of, and which they actually do complain of in those that differ from them. He that, by an indifferency for all but truth, suffers not his assent to go faster than his evidence, nor beyond it, will learn to examine and examine fairly instead of presuming, and nobody will be at a loss or in danger for want of embracing those truths which are necessary in his station and circumstances. In any other way but this, all the world are born to orthodoxy :¹ they imbibe at first the allowed opinions of their country and party, and so, never questioning their truth, not one of a hundred ever examines. They are applauded for presuming they are in the right. He that considers is a foe to orthodoxy, because possibly he may deviate from some of the received doctrines there.² And thus men, without any industry or acquisition of their own, inherit local truths (for it is not the same everywhere), and are inured to assent without evidence. This influences farther than is thought ; for what one of a hundred of the zealous bigots in all parties ever examined the tenets he is so stiff in, or ever thought it his business or duty so to do ? It is suspected of lukewarmness to suppose it necessary, and a tendency to apostasy to go about it. And if a man can bring his mind once to be positive and fierce for positions whose evidence he has never once examined, and that in matters of greatest concernment to him, what shall keep him from this short and easy way of being in the right in cases of less moment ? Thus we are taught to clothe our minds as we do our

¹ Orthodoxy, which, according to the original usage of the term, is the dogma of the Catholic Church as opposed to the tenets of heretics, is, practically speaking, at any particular time and in any particular country, the body of opinions then and there most prevalent.

² Warburton says : 'Orthodoxy is my doxy, Heterodoxy is another man's doxy.'

bodies after the fashion in vogue, and it is accounted fantasticalness, or something worse, not to do so. This custom (which who dares oppose ?) makes the short-sighted bigots, and the warier sceptics, as far as it prevails. And those that break from it are in danger of heresy ; for, taking the whole world, how much of it doth truth and orthodoxy possess together ? Though it is by the last alone (which has the good luck to be everywhere) that error and heresy are judged of ; for argument and evidence signify nothing in the case, and excuse nowhere, but are sure to be borne down in all societies by the infallible orthodoxy of the place. Whether this be the way to truth and right assent, let the opinions, that take place and prescribe in the several habitable parts of the earth, declare. I never saw any reason yet why truth might not be trusted to its own evidence ; I am sure, if that be not able to support it, there is no fence against error, and then truth and falsehood are but names that stand for the same things. Evidence therefore is that by which alone every man is (and should be) taught to regulate his assent, who is then and then only in the right way when he follows it.

Men deficient in knowledge are usually in one of these three states : either wholly ignorant ; or as doubting of some proposition they have either embraced formerly, or at present are inclined to ; or, lastly, they do with assurance hold and profess, without ever having examined and been convinced by well-grounded arguments.

The first of these are in the best state of the three, by having their minds yet in their perfect freedom and indifferency, the likelier to pursue truth the better, having no bias yet clapped on to mislead them.¹

XXXV. IGNORANCE WITH INDIFFERENCY.

For ignorance with an indifferency for truth is nearer to it than opinion with ungrounded inclination, which is the great source of error ; and they are more in danger to go out of the way who are marching under the conduct of a guide, that it is a hundred to one will mislead them, than he that has not yet taken a step and is likelier to be prevailed on to inquire after the right way.

The last of the three sorts are in the worst condition of all ; for if a man can be persuaded and fully assured of anything for a truth,

¹ The reader will be reminded, though the cases are not strictly parallel, of the answer of the Delphic Oracle to Chaerephon, that there was no man wiser than Socrates, and of Socrates's explanation of the response, that he alone was conscious of his own ignorance. The conceit of knowledge without the reality was a far inferior state of mind to ignorance with the consciousness of it. See Plato's *Apology of Socrates*, and Grote's *Greece*, Pt. II. ch. 68.

without having examined, what is there that he may not embrace for truth? And if he has given himself up to believe a lie, what means is there left to recover one who can be assured without examining? To the other two this I crave leave to say, that as he that is ignorant is in the best state of the two, so he should pursue truth in a method suitable to that state, i. e. by inquiring directly into the nature of the thing itself, without minding the opinions of others, or troubling himself with their questions or disputes about it, but to see what he himself can, sincerely searching after truth, find out. He that proceeds upon other principles in his inquiry into any sciences, though he be resolved to examine them and judge of them freely, does yet at least put himself on that side, and post himself in a party which he will not quit till he be beaten out; by which the mind is insensibly engaged to make what defence it can, and so is unawares biased. I do not say but a man should embrace some opinion when he has examined, else he examines to no purpose; but the surest and safest way is to have no opinion at all till he has examined, and that without any the least regard to the opinions or systems of other men about it. For example, were it my business to understand physic, would not the safer and readier way be to consult Nature herself, and inform myself in the history of diseases and their cures, than, espousing the principles of the dogmatists, methodists, or chymists, engage in all the disputes concerning either of those systems, and suppose it to be true, till I have tried what they can say to beat me out of it. Or, supposing that Hippocrates, or any other book, infallibly contains the whole art of physic, would not the direct way be to study, read, and consider that book, weigh and compare the parts of it to find the truth, rather than espouse the doctrines of any party, who, though they acknowledge his authority, have already interpreted and wiredrawn

¹ These were various sects of physicians. The Dogmatists and Empirics were opposed rather in respect of their logical method than their medical doctrine. The former, who trusted mainly to the deductions of reason, falsely claimed for themselves the authority of Hippocrates (the great physician of Cos, born, according to the common account, B. C. 460); the latter, who professed to ground their conclusions solely on experience, may conveniently be dated from Philinus of Cos, who flourished about 250 B. C. The Methodists were a later school, and appear to have meant nothing more by the name which they assumed than that they proposed a new method, distinct from that of either the Dogmatists or Empirics. Their doctrine rested on a philosophical theory of Atomism. Its earliest exponents were Asclepiades of one of the towns named Prusa in Bithynia and Themison of Laodicea, both belonging to the first century B. C. By the 'chymists' Locke probably means the followers of Paracelsus (b. 1493, d. 1541), though 'chymiatría,' or the art of healing by means of drugs, had, of course, existed long before his time. The body, according to Paracelsus, being composed of sulphur, mercury, and salt, all disease arises from the relative increase, diminution, or disarrangement of these elements.

all his text to their own sense ; the tincture whereof when I have imbibed, I am more in danger to misunderstand his true meaning, than if I had come to him with a mind unprepossessed by doctors and commentators of my sect, whose reasonings, interpretation, and language, which I have been used to, will of course make all chime that way, and make another and perhaps the genuine meaning of the author seem harsh, strained, and uncouth to me. For words, having naturally none of their own, carry that signification to the hearer that he is used to put upon them, whatever be the sense of him that uses them. This, I think, is visibly so ; and if it be, he that begins to have any doubt of any of his tenets, which he received without examination, ought, as much as he can, to put himself wholly into this state of ignorance in reference to that question, and, throwing wholly by all his former notions, and the opinions of others, examine, with a perfect indifferency, the question in its source, without any inclination to either side, or any regard to his or others' unexamined opinions. This I own is no easy thing to do, but I am not inquiring the easy way to opinion, but the right way to truth ; which they must follow who will deal fairly with their own understandings and their own souls.

XXXVI. QUESTION.

The indifferency that I here propose will also enable them to state the question right, which they are in doubt about, without which they can never come to a fair and clear decision of it.

XXXVII. PERSEVERANCE.

Another fruit from this indifferency and the considering things in themselves, abstract from our own opinions and other men's notions and discourses on them, will be that each man will pursue his thoughts in that method which will be most agreeable to the nature of the thing and to his apprehension of what it suggests to him ; in which he ought to proceed with regularity and constancy, until he come to a well-grounded resolution wherein he may acquiesce. If it be objected that this will require every man to be a scholar, and quit all his other business, and betake himself wholly to study ; I answer, I propose no more to any one than he has time for. Some men's state and condition requires no great extent of knowledge ; the necessary provision for life swallows the greatest part of their time. But one man's want of leisure is no excuse for the oscitancy [*gaping mind or laziness*] and ignorance of those who

have time to spare; and every one has enough to get as much knowledge as is required and expected of him, and he that does not that is in love with ignorance, and is accountable for it.

XXXVIII. PRESUMPTION.

The variety of distempers in men's minds is as great as of those in their bodies; some are epidemic, few escape them, and every one too, if he would look into himself, would find some defect of his particular genius. There is scarce any one without some idiosyncrasy that he suffers by. This man presumes upon his parts, that they will not fail him at time of need, and so thinks it superfluous labor to make any provision beforehand. His understanding is to him like Fortunatus's purse,¹ which is always to furnish him without ever putting anything into it beforehand; and so he sits still satisfied, without endeavoring to store his understanding with knowledge. It is the spontaneous product of the country, and what need of labor in tillage? Such men may spread their native riches before the ignorant; but they were best not come to stress and trial with the skilful. We are born ignorant of everything. The superficies of things that surround them make impressions on the negligent, but nobody penetrates into the inside without labor, attention, and industry. Stones and timber grow of themselves, but yet there is no uniform pile with symmetry and convenience to lodge in without toil and pains. God has made the intellectual world harmonious and beautiful without us; but it will never come into our heads all at once; we must bring it home piecemeal, and there set it up by our own industry, or else we shall have nothing but darkness and a chaos within, whatever order and light there be in things without us.

XXXIX. DESPONDENCY.

On the other side, there are others that depress their own minds, despond at the first difficulty, and conclude that the getting an insight in any of the sciences, or making any progress in knowledge, farther than serves their ordinary business, is above their capacities.

¹ 'Fortunatus is the legendary hero of one of the most popular of European chap-books. He was a native, says the story, of Famagosta in Cyprus, and after many strange adventures and vicissitudes fell in with the goddess of Fortune in a wild forest, and received from her a purse which was continually replenished as often as he drew from its stores. . . . The earliest known edition of the German text of Fortunatus appeared at Augsburg in 1509, and the modern German investigators are disposed to regard this as the original form. Innumerable rifacimentos have been made in French, Italian, Dutch, English, &c., and cheap editions are still common enough on the bookstalls.' — *Encyclopaedia Britannica*.

These sit still, because they think they have not legs to go; as the others I last mentioned do, because they think they have wings to fly, and can soar on high when they please. To these latter one may for answer apply the proverb, *Use legs and have legs*. Nobody knows what strength of parts he has till he has tried them. And of the understanding one may most truly say, that its force is greater generally than it thinks, till it is put to it. *Viresque acquirit eundo*.¹

And therefore the proper remedy here is but to set the mind to work, and apply the thoughts vigorously to the business; for it holds in the struggles of the mind, as in those of war, *Dum putant se vincere, vicere*; ² a persuasion that we shall overcome any difficulties that we meet with in the sciences seldom fails to carry us through them. Nobody knows the strength of his mind and the force of steady and regular application, till he has tried. This is certain, he that sets out upon weak legs will not only go farther, but grow stronger too, than one, who, with a vigorous constitution and firm limbs, only sits still.

Something of kin to this men may observe in themselves, when the mind frights itself (as it often does) with anything reflected on in gross, and transiently viewed confusedly and at a distance. Things thus offered to the mind carry the show of nothing but difficulty in them, and are thought to be wrapped up in impenetrable obscurity. But the truth is, these are nothing but spectres that the understanding raises to itself to flatter its own laziness. It sees nothing distinctly in things remote and in a huddle, and therefore concludes too faintly that there is nothing more clear to be discovered in them. It is but to approach nearer, and that mist of our own raising that enveloped them will remove; and those that in that mist appeared hideous giants, not to be grappled with, will be found to be of the ordinary and natural size and shape. Things that in a remote and confused view seem very obscure, must be approached by gentle and regular steps; and what is most visible, easy, and obvious in them, first considered. Reduce them into their distinct parts; and then in their due order bring all that should be known concerning every one of those parts into plain and simple questions; and then what was thought obscure, perplexed, and too hard for our weak parts, will lay itself open to the understanding in a fair view,

¹ Virg. Aen. iv. 175.

² I do not know the source of this quotation, but cp. Virg. Aen. v. 231:

‘Hos successus alit: possunt, quia posse videntur.’

and let the mind into that which before it was awed with and kept at a distance from, as wholly mysterious. I appeal to my reader's experience, whether this has never happened to him, especially when, busy on one thing, he has occasionally reflected on another. I ask him, whether he has never thus been scared with a sudden opinion of mighty difficulties, which yet have vanished, when he has seriously and methodically applied himself to the consideration of this seeming terrible subject; and there has been no other matter of astonishment left, but that he amused himself with so discouraging a prospect of his own raising, about a matter which in the handling was found to have nothing in it more strange nor intricate than several other things which he had long since and with ease mastered. This experience should teach us how to deal with such bugbears another time, which should rather serve to excite our vigor than enervate our industry. The surest way for a learner, in this as in all other cases, is not to advance by jumps and large strides; let that which he sets himself to learn next be indeed the next, i. e. as nearly conjoined with what he knows already as is possible; let it be distinct but not remote from it; let it be new and what he did not know before, that the understanding may advance; but let it be as little at once as may be, that its advances may be clear and sure. All the ground that it gets this way it will hold. This distinct gradual growth in knowledge is firm and sure, it carries its own light with it in every step of its progression in an easy and orderly train, than which there is nothing of more use to the understanding. And though this perhaps may seem a very slow and lingering way to knowledge, yet I dare confidently affirm that whoever will try it in himself, or any one he will teach, shall find the advances greater in this method, than they would in the same space of time have been in any other he could have taken. The greatest part of true knowledge lies in a distinct perception of things in themselves distinct. And some men give more clear light and knowledge by the bare distinct stating of a question, than others by talking of it in gross whole hours together. In this, they who so state a question do no more but separate and disentangle the parts of it one from another, and lay them, when so disentangled, in their due order. This often, without any more ado, resolves the doubt, and shows the mind where the truth lies. The agreement or disagreement of the ideas in question, when they are once separated and distinctly considered, is, in many cases, presently perceived, and thereby clear and lasting knowledge gained; whereas

things in gross taken up together, and so lying together in confusion, can produce in the mind but a confused, which in effect is no knowledge, or at least, when it comes to be examined and made use of, will prove little better than none. I therefore take the liberty to repeat here again what I have said elsewhere,¹ that, in learning anything, as little should be proposed to the mind at once as is possible; and, that being understood and fully mastered, to proceed to the next adjoining part yet unknown, [another] simple, unperplexed proposition² belonging to the matter in hand, and tending to the clearing what is principally designed.

XL. ANALOGY.

Analogy³ is of great use to the mind in many cases, especially in natural philosophy, and that part of it chiefly which consists in happy and successful experiments. But here we must take care that we keep ourselves within that wherein the analogy consists. For example, the acid oil of vitriol is found to be good in such a case, therefore the spirit of nitre or vinegar may be used in the like case. If the good effect of it be owing wholly to the acidity of it, the trial may be justified; but if there be something else besides the acidity in the oil of vitriol, which produces the good we desire in the case, we mistake that for analogy which is not, and suffer our understanding to be misguided by a wrong supposition of analogy where there is none.

XLI. ASSOCIATION.

Though I have, in the Second Book of my Essay concerning Human Understanding,⁴ treated of the association of ideas; yet

¹ Sections 25, 28, and Thoughts concerning Education, Sections 64-66.

² What is meant by 'simple, unperplexed proposition,' is a proposition making one simple statement or asking one simple question, as opposed to a proposition involving a number of statements or asking a plurality of questions, and therefore putting before the mind several issues instead of one.

³ On the various meanings of the word Analogy, and on the nature of the argument founded on Analogy, in the modern sense of that term, see Fowler's Inductive Logic, ch. 4. The peculiarity of the argument is, that we do not draw our inference from a number of instances, as in Induction, but from a number of points of resemblance. 'The argument is based, not on the number of *instances* in which the two sets of qualities are found united, but on the number of *qualities* which are found to be common to two or more instances: the argument is not that I have so often observed *a, b, c* in conjunction with *m* that I believe these qualities to be conjoined invariably, but that I know *X* and *Y* to resemble each other in so many points that I believe them to resemble each other in all.' The argument is never absolutely conclusive, because its very characteristic is to argue from a number of known points of resemblance to the common possession of some other quality which is known to exist in the one instance but not known to exist in the other. Were it *known* to exist in both, either as a matter of fact or as a certain inference from induction, there would be no occasion for the argument from analogy.

⁴ See Bk. II. ch. 33. This admirable chapter, which the student should by all means

having done it there historically, as giving a view of the understanding in this as well as its several other ways of operating, rather than designing there to inquire into the remedies [that] ought to be applied to it: it will, under this latter consideration, afford other matter of thought to those who have a mind to instruct themselves thoroughly in the right way of conducting their understandings; and that the rather, because this, if I mistake not, is as frequent a cause of mistake and error in us as perhaps anything else that can be named, and is a disease of the mind as hard to be cured as any; it being a very hard thing to convince any one that things are not so, and naturally so, as they constantly appear to him.

By this one easy and unheeded miscarriage of the understanding, sandy and loose foundations become infallible principles, and will not suffer themselves to be touched or questioned: such unnatural connections become by custom as natural to the mind as sun and light. Fire and warmth go together, and so seem to carry with them as natural an evidence as self-evident truths themselves. And where then shall one with hopes of success begin the cure? Many men firmly embrace falsehood for truth; not only because they never thought otherwise, but also because, thus blinded as they have been from the beginning, they never could think otherwise; at least without a vigor of mind able to contest the empire of habit, and look into its own principles, a freedom which few men have the notion of in themselves, and fewer are allowed the practice of by others; it being the great art and business of the teachers and guides in most sects, to suppress, as much as they can, this fundamental duty which every man owes himself, and [which] is the first steady step towards right and truth in the whole train of his actions and opinions. This would give one reason to suspect that such teachers are conscious to themselves of the falsehood or weakness of the tenets they profess, since they will not suffer the grounds whereon they are built to be examined; whereas those who seek truth only, and desire to own and propagate nothing else, freely expose their principles to the test, are pleased to have them examined, give men leave to reject them if they can, and, if there be anything weak and unsound in them, are willing to have it detected, that they themselves, as well as others, may not lay any stress upon any received proposition beyond what the evidence of its truth will warrant and allow.

consult, was added in the Fourth Edition of the Essay, published in 1699. It had probably been written some years before.

There is, I know, a great fault among all sorts of people of *principling*¹ their children and scholars; which at last, when looked into, amounts to no more but making them imbibe their teachers' notions and tenets by an implicit faith, and firmly to adhere to them whether true or false. What colors may be given to this, or of what use it may be when practised upon the vulgar, destined to labor and given up to the service of their bellies, I will not here inquire. But as to the ingenuous part of mankind, whose condition allows them leisure, and letters, and inquiry after truth, I can see no other right way of *principling* them, but to take heed, as much as may be, that, in their tender years, ideas that have no natural cohesion come not to be united in their heads,² and that this rule be often inculcated to them to be their guide in the whole course of their lives and studies, viz. that they never suffer any ideas to be joined in their understandings in any other or stronger combination than what their own nature and correspondence give them; and that they often examine those that they find linked together in their minds, whether this association of ideas be from the visible agreement that is in the ideas themselves, or from the habitual and prevailing custom of the mind joining them thus together in thinking.

This is for caution against this evil, before it be thoroughly riveted by custom in the understanding; but he that would cure it, when habit has established it, must nicely observe the very quick and almost imperceptible motions of the mind in its habitual actions. What I have said in another place³ about the change of the ideas

¹ That is, imbuing them, by repeated admonition, with general maxims of conduct or general principles of speculation, the truth of which is taken for granted. On 'Principles,' see Section 6.

² That is to say, that ideas come not to be thought to have a necessary or usual connection, when they have no such necessary or usual connection as a matter of fact, and that the extent of any usual connection be not exaggerated.

³ He is referring here to the celebrated passage contained in the Essay, Bk. II. ch. 9, §§ 8-10. The reference in § 8 to Mr. Molyneux was inserted in the Second Edition. It would be out of place here to refer at any length to the manner in which this idea was worked out and extended by Bp. Berkeley in his *New Theory of Vision*, or to the subsequent developments and modifications of Berkeley's theory by Professor Bain and others. See Berkeley's 'Essay towards a New Theory of Vision,' with Professor Fraser's Preface, and Professor Bain's *Mental Science*, Bk. II. ch. 7, sections on Theory of Vision. The most familiar and perhaps the best example of 'the change of the ideas of sense into those of judgment,' is to be found in the acquired perceptions of sight. Thus, for instance, our estimates of distance are, in the language of Berkeley, formed by 'an act of judgment grounded on experience rather than by sense.' We do not *see* distance, but we learn to estimate it, whether it be near or remote, by constantly repeated acts of comparison between our various visual sensations, on the one hand, and the sensations derived from touch, muscular exertion, and locomotion, on the other.

of sense into those of judgment, may be proof of this. Let any one not skilled in painting be told when he sees bottles and tobacco pipes, and other things so painted, as they are in some places shown, that he does not see protuberances, and you will not convince him but by the touch: he will not believe that, by an instantaneous legerdemain of his own thoughts, one idea is substituted for the other. How frequent instances may one meet with of this in the arguings of the learned, who not seldom, in two ideas that they have been accustomed to join in their minds, substitute one for the other; and, I am apt to think, often without perceiving it themselves. This, whilst they are under the deceit of it, makes them incapable of conviction, and they applaud themselves as zealous champions for truth, when indeed they are contending for error. And the confusion of two different ideas, which a customary connection of them in their minds hath made to them almost one, fills their heads with false views, and their reasonings with false consequences.

XLII. FALLACIES.¹

Right understanding consists in the discovery and adherence to truth, and that in the perception of the visible or probable agreement or disagreement of ideas, as they are affirmed and denied one of another. From whence it is evident that the right use and conduct of the understanding, whose business is purely truth and nothing else, is, that the mind should be kept in a perfect indifferency, not inclining to either side, any farther than evidence settles it by knowledge, or the overbalance of probability gives it the turn of assent and belief; but yet it is very hard to meet with any discourse, wherein one may not perceive the author not only maintain (for that is reasonable and fit) but inclined and biased to one side of the question, with marks of a desire that that should be true. If it be asked me, how authors who have such a bias and lean to it may be discovered, I answer, by observing how, in their writings or arguings, they are often led by their inclinations to change the ideas of the question, either by changing the terms, or by adding and joining others to them, whereby the ideas under consideration

¹ In its widest and commonest sense, a Fallacy may be described as any error either in the premises or the conclusions of our arguments. Such errors are due sometimes to moral, sometimes to intellectual causes. One chapter, at least, in every work on Logic, and that which is almost invariably the most practically useful, is devoted to the discussion of Fallacies. See, for instance, Mill's *Logic*, Bk. V., Fowler's *Deductive Logic*, Pt. III. ch. 8, and Fowler's *Inductive Logic*, ch. 6. Bacon's very fresh and interesting treatment of Fallacies is to be found in his doctrine of the *Idola*, *Novum Organum*, Bk. I. Aphs. 38-70.

are so varied as to be more serviceable to their purpose, and to be thereby brought to an easier and nearer agreement or more visible and remoter disagreement one with another. This is plain and direct sophistry; but I am far from thinking that, wherever it is found, it is made use of with design to deceive and mislead the readers. It is visible that men's prejudices and inclinations by this way impose often upon themselves; and their affection for truth, under their prepossession in favor of one side, is the very thing that leads them from it. Inclination suggests and slides into their discourse favorable terms, which introduce favorable ideas, till at last, by this means, that is concluded clear and evident, thus dressed up, which taken in its native state, by making use of none but the precise determined ideas, would find no admittance at all. The putting these glosses on what they affirm, these, as they are thought, handsome, easy, and graceful explications of what they are discoursing on, is so much the character of what is called and esteemed writing well, that it is very hard to think that authors will ever be persuaded to leave what serves so well to propagate their opinions and procure themselves credit in the world, for a more jejune and dry way of writing, by keeping to the same terms precisely annexed to the same ideas, a sour and blunt stiffness tolerable in mathematicians only, who force their way and make truth prevail by irresistible demonstration.

But yet if authors cannot be prevailed with to quit the looser, though more insinuating, ways of writing, if they will not think fit to keep close to truth and instruction by unvaried terms and plain unsophisticated arguments, yet it concerns readers not to be imposed on by fallacies and the prevailing ways of insinuation. To do this, the surest and most effectual remedy is, to fix in the mind the clear and distinct ideas of the question stripped of words; and so likewise, in the train of argumentation, to take up the author's ideas, neglecting his words, observing how they connect or separate those in the question. He that does this will be able to cast off all that is superfluous; he will see what is pertinent, what coherent, what is direct to, what slides by the question. This will readily show him all the foreign ideas in the discourse, and where they were brought in; and though they perhaps dazzled the writer, yet he will perceive that they give no light nor strength to his reasonings.

This, though it be the shortest and easiest way of reading books with profit, and keeping one's self from being misled by great names

or plausible discourses, yet, it being hard and tedious to those who have not accustomed themselves to it, it is not to be expected that every one (amongst those few who really pursue truth) should this way guard his understanding from being imposed on by the wilful, or at least undesigned sophistry, which creeps into most of the books of argument. They that write against their conviction, or that next to them are resolved to maintain the tenets of a party they are engaged in, cannot be supposed to reject any arms that may help to defend their cause, and therefore such should be read with the greatest caution. And they who write for opinions they are sincerely persuaded of, and believe to be true, think they may so far allow themselves to indulge their laudable affection to truth, as to permit their esteem of it to give it the best colors, and set it off with the best expressions and dress they can, thereby to gain it the easiest entrance into the minds of their readers and fix it deepest there.

One of those being the state of mind we may justly suppose most writers to be in, it is fit their readers, who apply to them for instruction, should not lay by that caution which becomes a sincere pursuit of truth and should make them always watchful against whatever might conceal or misrepresent it. If they have not the skill of representing to themselves the author's sense by pure ideas separated from sounds, and thereby divested of the false lights and deceitful ornaments of speech, this yet they should do, they should keep the precise question steadily in their minds, carry it along with them through the whole discourse, and suffer not the least alteration in the terms, either by addition, subtraction, or substituting any other. This every one can do who has a mind to it : and he that has not a mind to it, it is plain, makes his understanding only the warehouse of other men's lumber ; I mean, false and unconcluding reasonings, rather than a repository of truth for his own use, which will prove substantial and stand him in stead when he has occasion for it. And whether such an one deals fairly by his own mind, and conducts his own understanding right, I leave to his own understanding to judge.

XLIII. FUNDAMENTAL VERITIES.

The mind of man being very narrow, and so slow in making acquaintance with things and taking in new truths that no one man is capable, in a much longer life than ours, to know all truths ; it becomes our prudence, in our search after knowledge, to employ

our thoughts about fundamental and material questions, carefully avoiding those that are trifling, and not suffering ourselves to be diverted from our main even purpose by those that are merely incidental. How much of many young men's time is thrown away in purely logical inquiries,¹ I need not mention. This is no better than if a man, who was to be a painter, should spend all his time in examining the threads of the several cloths he is to paint upon, and counting the hairs of each pencil and brush he intends to use in the laying on of his colors. Nay, it is much worse than for a young painter to spend his apprenticeship in such useless niceties ; for he, at the end of all his pains to no purpose, finds that it is not painting, nor any help to it, and so is really to no purpose. Whereas men designed for scholars have often their heads so filled and warmed with disputes on logical questions, that they take those airy useless notions for real and substantial knowledge, and think their understandings so well furnished with science that they need not look any farther into the nature of things, or descend to the mechanical drudgery of experiment and inquiry. This is so obvious a mismanagement of the understanding, and that in the professed way to knowledge, that it could not be passed by ; to which might be joined abundance of questions, and the way of handling them in the schools. What faults in particular of this kind every man is, or may be, guilty of, would be infinite to enumerate ; it suffices to have shown that superficial and slight discoveries and observations that contain nothing of moment in themselves, nor serve as clues to lead us into farther knowledge, should be lightly passed by, and never thought worth our searching after. There are fundamental truths that lie at the bottom, the basis upon which a great many others rest, and in which they have their consistency. These are teeming truths, rich in store, with which they furnish the mind, and, like the lights of heaven, are not only beautiful and entertaining in themselves, but give light and evidence to other things that without them could not be seen or known. Such is that admirable discovery of Mr. Newton,² that all

¹ That is to say, in mere logical subtleties and technical distinctions. Opposed as Locke was to the logical discipline then prevailing, he would have been one of the last to question the importance of analyzing the reasoning process and determining the ultimate grounds on which the various orders of our beliefs rest.

² Compare what Locke says of Newton in the Epistle to the Reader, prefixed to the Essay : 'The Commonwealth of Learning is not at this time without master-builders, whose mighty designs, in advancing the sciences, will leave lasting monuments to the admiration of posterity ; but every one must not hope to be a Boyle or a Sydenham. And in an age that produces such masters as the great — Huygenius, and the incomparable Mr. Newton, with some other of

bodies gravitate to one another, which may be counted as the basis of natural philosophy ; which of what use it is to the understanding of the great frame of our solar system, he has to the astonishment of the learned world shown, and how much farther it would guide us in other things, if rightly pursued, is not yet known.¹ Our Saviour's great rule, that *we should love our neighbor as ourselves*, is such a fundamental truth for the regulating human society, that I think by that alone one might without difficulty determine all the cases and doubts in social morality. These, and such as these, are the truths we should endeavor to find out and store our minds with. Which leads me to another thing in the conduct of the understanding that is no less necessary, viz.

XLIV. BOTTOMING.

To accustom ourselves in any question proposed to examine and find out upon what it bottoms. Most of the difficulties that come in our way, when well considered and traced, lead us to some proposition which, known to be true, clears the doubt, and gives an easy solution of the question, whilst topical [see Section VII.] and superficial arguments, of which there is store to be found on both sides, filling the head with variety of thoughts and the mouth with copious discourse, serve only to amuse the understanding, and entertain company without coming to the bottom of the question, the only place of rest and stability for an inquisitive mind whose tendency is only to truth and knowledge.

For example, if it be demanded whether the Grand Seignior [King of England] can lawfully take what he will from any of his people. This question cannot be resolved without coming to a certainty whether all men are naturally equal ; for upon that it turns, and that truth, well settled in the understanding and carried in the mind through the various debates concerning the various rights of men in society, will go a great way in putting an end to them and showing on which side the truth is.

XLV. TRANSFERRING OF THOUGHTS.

There is scarce anything more for the improvement of knowledge, for the ease of life, and the despatch of business, than for a man to

that strain, it is ambition enough to be employed as an under-laborer in clearing ground a little, and removing some of the rubbish that lies in the way to knowledge.' Locke and Newton were, during a great part of their lives, on terms of intimate friendship, and it was, to a large extent, through Locke's exertions that Newton was appointed Warden of the Mint.

¹ Newton's law of gravitation, when stated precisely, is that every particle of matter attracts every other particle with a force varying inversely as the square of the distance.

be able to dispose of his own thoughts; and there is scarce anything harder in the whole conduct of the understanding, than to get a full mastery over it. The mind, in a waking man, has always some object that it applies itself to; which, when we are lazy or unconcerned, we can easily change, and at pleasure transfer our thoughts to another, and from thence to a third, which has no relation to either of the former. Hence men forwardly conclude, and frequently say, nothing is so free as thought, and it were well it were so; but the contrary will be found true in several instances; and there are many cases wherein there is nothing more resty and ungovernable than our thoughts: they will not be directed what objects to pursue, nor be taken off from those they have once fixed on, but run away with a man in pursuit of those ideas they have in view, let him do what he can.

I will not here mention again what I have above [Section ix.] taken notice of, how hard it is to get the mind, narrowed by a custom of thirty or forty years' standing to a scanty collection of obvious and common ideas, to enlarge itself to a more copious stock, and grow into an acquaintance with those that would afford more abundant matter of useful contemplation; it is not of this I am here speaking. The inconvenience I would here represent and find a remedy for, is the difficulty there is sometimes to transfer our minds from one subject to another, in cases where the ideas are equally familiar to us.

Prepossession.

Matters that are recommended to our thoughts by any of our passions take possession of our minds with a kind of authority, and will not be kept out or dislodged, but, as if the passion that rules were, for the time, the sheriff of the place, and came with all the posse,¹ the understanding is seized and taken with the object it introduces, as if it had a legal right to be alone considered there. There is scarce anybody, I think, of so calm a temper who hath not sometime found this tyranny on his understanding, and suffered under the inconvenience of it. Who is there almost whose mind, at some time or other, love or anger, fear or grief, has not so fastened to some clog, that it could not turn itself to any other object? I call it a clog, for it hangs upon the mind so as to hinder its vigor

¹ 'Posse Comitatus,' 'the power of a county, including the aid and attendance of all knights and other men above the age of fifteen within the county. It is called out when a riot is committed, a possession is kept on a forcible entry, or any force is used or rescue made contrary to the commandment of the Queen's writ, or in opposition to the execution of justice.'

and activity in the pursuit of other contemplations, and advances itself little or not [at] all in the knowledge of the thing which it so closely hugs and constantly pores on. Men thus possessed are sometimes as if they were so in the worst sense, and lay under the power of an enchantment. They see not what passes before their eyes; hear not the audible discourse of the company; and when by any strong application to them they are roused a little, they are like men brought to themselves from some remote region; whereas in truth they come no farther than their secret cabinet within, where they have been wholly taken up with the puppet which is for that time appointed for their entertainment. The shame that such dumps cause to well-bred people, when it carries them away from the company, where they should bear a part in the conversation, is a sufficient argument that it is a fault in the conduct of our understanding, not to have that power over it as to make use of it to those purposes and on those occasions wherein we have need of its assistance. The mind should be always free and ready to turn itself to the variety of objects that occur, and allow them as much consideration as shall for that time be thought fit. To be engrossed so by one object as not to be prevailed on to leave it for another that we judge fitter for our contemplation, is to make it of no use to us. Did this state of mind remain always so, every one would, without scruple, give it the name of perfect madness; and whilst it does last, at whatever intervals it returns, such a rotation of thoughts about the same object no more carries us forwards towards the attainment of knowledge, than getting upon a mill-horse whilst he jogs on in his circular track would carry a man a journey.

I grant something must be allowed to legitimate passions and to natural inclinations. Every man, besides occasional affections, has beloved studies, and those the mind will more closely stick to; but yet it is best that it should be always at liberty, and under the free disposal of the man, to act how and upon what he directs. This we should endeavor to obtain, unless we would be content with such a flaw in our understandings, that sometimes we should be as it were without it; for it is very little better than so in cases where we cannot make use of it to those purposes we would, and which stand in present need of it.

But before fit remedies can be thought on for this disease [prepossession], we must know the several causes of it, and thereby regulate the cure, if we will hope to labor with success.

One we have already instanced in, whereof all men that reflect

have so general a knowledge, and so often an experience in themselves, that nobody doubts of it. A prevailing passion so pins down our thoughts to the object and concern of it, that a man passionately in love cannot bring himself to think of his ordinary affairs, or a kind mother drooping under the loss of a child is not able to bear a part as she was wont in the discourse of the company or conversation of her friends.

But though passion be the most obvious and general, yet it is not the only cause that binds up the understanding, and confines it for the time to one object from which it will not be taken off.

Besides this, we may often find that the understanding, when it has awhile employed itself upon a subject, which either chance or some slight accident offered to it without the interest or recommendation of any passion, works itself into a warmth, and by degrees gets into a career, wherein, like a bowl down a hill, it increases its motion by going, and will not be stopped or diverted, though, when the heat is over, it sees all this earnest application was about a trifle not worth a thought, and all the pains employed about it lost labor.

There is a third sort, if I mistake not, yet lower than this ; it is a sort of childishness, if I may so say, of the understanding, wherein, during the fit, it plays with and dandles some insignificant puppet to no end, nor with any design at all, and yet cannot easily be got off from it. Thus some trivial sentence, or a scrap of poetry, will sometimes get into men's heads, and make such a chiming there, that there is no stilling of it ; no peace to be obtained, nor attention to anything else, but this impertinent guest will take up the mind and possess the thoughts in spite of all endeavors to get rid of it. Whether every one hath experimented in themselves this troublesome intrusion of some striking ideas which thus importune the understanding, and hinder it from being better employed, I know not. But persons of very good parts, and those more than one, I have heard speak and complain of it themselves. The reason I have to make this doubt is from what I have known in a case something of kin to this, though much odder, and that is of a sort of visions that some people have lying quiet but perfectly awake in the dark, or with their eyes shut. It is a great variety of faces, most commonly very odd ones, that appear to them in a train one after another ; so that having had just the sight of the one, it immediately passes away to give place to another, that the same instant succeeds and has as quick an exit as its leader, and so they

march on in a constant succession ; nor can any one of them by any endeavor be stopped or retained beyond the instant of its appearance, but is thrust out by its follower, which will have its turn. Concerning this fantastical phenomenon I have talked with several people, whereof some have been perfectly acquainted with it, and others have been so wholly strangers to it that they could hardly be brought to conceive or believe it. I knew a lady of excellent parts, who had got past thirty without having ever had the least notice of any such thing ; she was so great a stranger to it that, when she heard me and another talking of it, [she] could scarce forbear thinking we bantered her ; but some time after, drinking a large dose of dilute tea (as she was ordered by a physician) going to bed, she told us at next meeting, that she had now experimented what our discourse had much ado to persuade her of. She had seen a great variety of faces in a long train, succeeding one another, as we had described ; they were all strangers and intruders, such as she had no acquaintance with before, nor sought after then, and as they came of themselves they went too ; none of them stayed a moment, nor could be detained by all the endeavors she could use, but went on in their solemn procession, just appeared and then vanished. This odd phenomenon seems to have a mechanical cause, and to depend upon the matter and motion of the blood or animal spirits.¹

When the fancy is bound by passion, I know no way to set the mind free and at liberty to prosecute what thoughts the man would make choice of, but to allay the present passion, or counterbalance² it with another, which is an art to be got by study and acquaintance with the passions.

Those who find themselves apt to be carried away with the spontaneous current of their own thoughts, not excited by any passion or interest, must be very wary and careful in all the instances of it to stop it, and never humor their minds in being thus triflingly

¹ Phenomena of this kind, which are by no means rare, are undoubtedly due to physical causes, such as insanity, delirium, intoxication, or indigestion. Many analogous phenomena are described in De Quincey's *Confessions of an English Opium-Eater*.

² This plan of 'counterbalancing' one passion by means of another is the most potent instrument with which the practical moralist is armed. It is often in vain to try to reason a man out of the indulgence of some master-passion or the persistent pursuit of some favorite course of conduct. But excite some other passion or affection, such, say, as fear, or ambition, or love of accumulation, or care for others, and the passion which we wish to moderate or eradicate may, with comparative ease, be kept under control. The set of a man's thoughts and actions is determined, not by the absolute strength of any one desire, but by the relative strength of all. Hence, to increase the intensity of any one passion or desire is to take an infallible means of weakening that of another. [Dr. Chalmers calls this process 'the expulsive power of a new affection.']

busy. Men know the value of their corporal liberty, and therefore suffer not willingly fetters and chains to be put upon them. To have the mind captivated is, for the time, certainly the greater evil of the two, and deserves our utmost care and endeavors to preserve the freedom of our better part. In this case our pains will not be lost; striving and struggling will prevail, if we constantly, in all such occasions, make use of it. We must never indulge these trivial attentions of thought; as soon as we find the mind makes itself a business of nothing, we should immediately disturb and check it, introduce new and more serious considerations, and not leave till we have beaten it off from the pursuit it was upon. This, at first, if we have let the contrary practice grow to a habit, will perhaps be difficult; but constant endeavors will by degrees prevail, and at last make it easy. And when a man is pretty well advanced, and can command his mind off at pleasure from incidental and undesigned pursuits, it may not be amiss for him to go on farther, and make attempts upon meditations of greater moment, that at the last he may have a full power over his own mind, and be so fully master of his own thoughts, as to be able to transfer them from one subject to another with the same ease that he can lay by anything he has in his hand and take something else that he has a mind to in the room of it. This liberty of mind is of great use both in business and study, and he that has got it will have no small advantage of ease and despatch in all that is the chosen and useful employment of his understanding.

The third and last way which I mentioned the mind to be sometimes taken up with, I mean the chiming of some particular words or sentence in the memory, and, as it were, making a noise in the head, and the like, seldom happens but when the mind is lazy or very loosely and negligently employed. It were better indeed be without such impertinent and useless repetitions; any obvious idea, when it is roving causelessly at a venture, being of more use and apter to suggest something worth consideration than the insignificant buzz of purely empty sounds. But since the rousing of the mind, and setting the understanding on work with some degrees of vigor, does for the most part presently set it free from these idle companions; it may not be amiss, whenever we find ourselves troubled with them, to make use of so profitable a remedy that is always at hand.

INDEX TO LOCKE'S ESSAY ON CONDUCT OF THE UNDERSTANDING.

- Abstract Ideas, 229.
 Abstraction, Power of, 227, 293.
 Actions of Men—Civil History, 250.
 Accidents and Accidental, 256.
 Advancement of Learning, Bacon's, 237.
 Algebra, in Students' curriculum, 227.
 Analogy, Meaning of, 274.
 Argument founded on Resemblances, 274.
 Anticipation of Conclusion, 239, 255.
 Antiquity, Partiality for, 246.
 Arguing for conclusions reached, 237.
 Arguing against Convictions, 266.
 Aristotle, Era of personal activity, 210.
 Scholastic use of his Logic, 210.
 Common-place, and common-forms, 226.
 Arrian, on Candor of Mind, 234.
 Assent, when and where to be given, 265.
 Assimilation of Book-knowledge, 252.
 Association of Ideas, 274.
 Atheism, 237.
 Atomism, in Medicine, 269.
 Attention, Power and Habit of, 240.
 Authority, Argument from, 252, 276.
 Axioms, Value of, 257.
 Axiomata Media, Intermediate principles, 244.
 Bacon, Francis, Lord Verulam, *b.* 1561; *d.* 1626, 210.
 Advancement of Learning, 240.
 Instauratio Magna, 210.
 Novum Organum, cited.
 Antiquity, 248.
 Atheism discarded, 224, 237.
 Intermediate Principles, 244.
 Logic over-estimated, 210.
 Narrow views, 213, 241.
 Importance of First Principles, 220.
 Generalization from wide observation, 254.
 Caution against Anticipation of results, 255.
 Differences and Resemblances, 263.
 Treatment of Fallacies, 277.
 Believers and Learners, 257, 265.
 Berkeley, Bishop, 276.
 Bias, Dangers from, 211, 237.
 Books, Value of, 251.
 May hinder search after truth, 251.
 Bottoming, or Fundamental Principles, 281.
 Butler, Bishop, Analogy cited, 231.
 Butler, Samuel, Hudibras cited, 238.
 Calf and the Ox—difference in weight, 257. [285.
 Chalmers, Dr., Expulsive power of new Passions,
 Chiming and Jingling of words in Memory, 286.
 Cicero, Superficial Universality, 240.
 Commune Vinculum of the Sciences, 241.
 Clear and Distinct Ideas, 218.
 Common Places, in Logical Forms, 226.
 Concentration of Mind, 281.
 Conclusions, Errors in, 277.
 Conduct of the Understanding—Locke, 205.
 Conduct of Life, 205, 291.
 Conduct of Studies and the Mind, 209.
 Confusion of Ideas, 229, 272, 277.
 Counterbalance of one Passion by Another, 285.
 Curiosity, 219.
 Deduction and Deductive Logic, 277.
 Delphic Oracle, Plato's, 268.
 Demonstrative Knowledge, 225.
 Despondency, 272.
 Desultoriness, or Laziness of Mind, 240.
 Differences and Resemblances, 263.
 Dignitas, Synonym of Axiom, 257.
 Discrimination, Power of, 221.
 Disputations in Universities, 226, 261.
 Discipline of Studies, 225.
 Distinction and Division, 260.
 Dogmatists, 269.
 Education, Liberal, 242.
 True office of, 242, 273.
 Essay on the Human Understanding, 209, 218, 258.
 Empirics in Medicine, 269.
 Examination, or Search after truth, 233.
 Expulsive Power of a new Affection, 285.
 Entities and Names—Words and Things, 258.
 Exercise—the Law of Growth, 256.
 Facility and Strength—Results of Exercise, 222.
 Facts of Different Quality, 250.
 Faculties or Parts, Various and Improvable, 216.
 Faith in Masters, Excessive, 276.
 Fallacies, Described, 277.
 Fancies, or Phantasmagoria, 284.
 Fencing with Words, 262.
 Flitting about a Subject, 257.
 Formulas, Abuse of, 258.
 Forte, or Special Strength, 240.
 Fortunatus' Purse, German tradition, 271.
 Fowler, Thomas, Notes, 209, 214, 218, 219, 223.
 Freedom of Thought, 242.
 Generalization, Hasty, 254.
 Geometry, Value in Discipline, 228.
 God, Knowledge and Love of, 246.
 Georgias, Plato's Dialogue, 240.
 Habit, Force of, 216.
 Hare and Tortoise, Fable of, 244.
 Haste, Dangers of, 253.
 Hasten slowly, 239, 244.
 Heterodoxy, 249, 268.
 Hindrances to real Knowledge, 231, 251, 276, 286.
 History, Natural and Civil, 236.
 Horace, cited, 247, 257.
 Hovering round, not penetrating a subject, 257.
 Huguenots, Knowledge of Scripture, 229.
 Hypotheses, 219, 221, 229, 254.
 Ignorance and Indifference, 268.
 Inability to reason and compare, 220, 229.
 Indifference, or Openness to light, 232, 266.
 Indifference, or want of interest, 229.
 Inductive Logic, 226.
 Intentional Species, and Substantial forms, 258.
 Interdependence of Truths, 244.
 Intermediate Principles, 244.
 Knowledge, the aim and end of study, 209.
 Demonstrative and Probable, 225.
 Labor, for its own enjoyment, 239.
 Laws, and their execution, 236.
 Laziness of Mind, 240. [236.
 Liberal Education, Locke's and Plato's, cited, 235,

Locke, John,—*b.* 1632; *d.* 1704,—225.

Experience in Teaching, 225.
Thoughts concerning Education—Contents, 297.
On Study—Limitations, Objects and Methods, 289.
Conduct of the Understanding, 205.
Plan of a Working School, 295.
Logic, Worthlessness of Scholastic, 210, 218.
Lumping of Things, 263.

Marianne, or Ladrone Island, inhabitants, 213.
Mastership of a Fancy or Passion, 285.
Mathematics, Special Discipline, 225.
Mental Differences, 216.
Metaphors and Similies, not Arguments, 264.
Metaphysics, Subtilties of the old, 280.
Methodists, in Medicine, 269.
Mill, John S., Logic, cited, 277.
Milton, Tractate on Education, 257.
Mind, its Faculties or Parts, improvable, 216.
Mizmaze of too much Reading, 253.
Mist, Escape from, 272.
Much Reading is not Study, 250.

Narrowness of Mind, 245.
Newton, Sir Isaac,—*b.* 1642; *d.* 1727,—280.
Novelty and Antiquity, 249.
Novum Organum, 210, 213, 220, 244, 255, 263.

Observation, 235, 250.
Material for Thought, 236, 254.
Observation and Experiment, Difference, 259.
Orthodoxy, Dogma of Catholic Church, 267.
Oscilancy, or gaping, 270.
Overstraining, 256.
Over-stability, 260.

Parts or Faculties, and their Exercise, 216.
Partiality to Certain Studies, 246.
Passion, Expulsion of Old by a New, 285.
Patrick, Bishop, Advice to a Friend, 234.
Perseverance, Regular and Constant, 250, 270.
Physicians, Various Sects of, 269.
Plato, cited, 235, 268.
Possunt, quia posse videntur, 272.
Practice, or Exercise of Faculties, 216, 217.
Prejudices, Hindrances to Knowledge, 231.
Preoccupation of Mind, 232, 282.
Presumption, 271.
Principles, First, or Fundamental, 219.
Probability in Reasoning, 226, 265.
Prove or try all things, 214.
Pudder or confuse, 236.
Puzzling young brains, 261.

Quality, and Quantity, of anything, 250.
Question, a right statement of the, 270.
Questioning, or seeking the right, 270.

Reading, too much a hindrance, 242.
Reading and Reflection make Study, 236.
Reason, Use of, 211.
Reasoning, the habit of, 211.
Must be formed early, 222.

Helped by study of Mathematics, 223.
Demonstrative and Probable, 226.
Reflection, Habit of, 211.
With Observation, 236, 254.
Religion of supreme importance, 228.
Main truths easily comprehended, 229.
Resignation, or Yielding to last Word, 255.
Rhetoric, 218.
Roving, or Unsettled Habit of Mind, 286.

Sauntering habit of mind, 240.
Schoolmen, Abuse of Terms, 258.
Seeing and Knowledge, 251.
Seneca, cited, 232.
Sense, common, or roundabout, 212.
Similes and Metaphors, uses of, 264.
Smattering—Pope cited, 240.
Socrates, cited, 268.
Some Thoughts on Education, 274.
Sophistry, or Fallacies, 278.
Species, Sensible and Intelligible, 258.
Strength, acquired by Practice, 222.
Study, Reading with Reflection, 244.
Subtleties, Logical and Metaphysical, 280.
Supreme Importance of Religion, 228.
Syllogism, Locke's attack on, 218.

Talents, Natural and Acquired, 211, 216.
Improved by well-proportioned exercise, 256.
Teaching, Locke's Experience in, 225.
Technical distinctions, 280.
Terms, Abuse of, 258.
Theology, or Knowledge of God, 246.
Of universal obligation, 246.
Thucydides, cited, 256.
Topical Argument—Locke, 226.
Aristotle's Common-place, 226.
Transferring of Thoughts, Power of, 282.
Concentration for a time, 282.
Truth, Object of the understanding, 209.
Touchstone, 214.
Always old—always new, 248.
Try or prove all things, 214.
Try, and try again, 272.

Understanding, The Human, Essay on, 209.
Conduct of, Locke on, 205–288.
Universality, 240, 245.
Universities, Logical Disputations in, 226, 261.
Influence of Words and Terms, 258, 280.

Verbal Distinctions, and Fence, 261.
Verities, Fundamental, 279.
Vinculum Commune, 241.
Virgil, cited, 272.
Volition, 209.
Voltaire, cited, 222.

Wandering habit of mind, 259.
Warburton's definition of Orthodoxy, 267.
Will, what determines, 209.
Words, should reveal, not conceal Ideas, 258.
Work, sovereign remedy for Fancies, 286.

AN ACT DONATING PUBLIC LANDS TO THE SEVERAL STATES AND TERRITORIES WHICH MAY PROVIDE COLLEGES FOR THE BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State, a quantity equal to thirty thousand acres for each senator and representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided,* That no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted,* That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections, not less than one-quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided,* That in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents, or less, per acre: *And provided, further,* That not more than one million acres shall be located by such assignees in any one of the States: *And provided, further,* That no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted,* That all the expenses of management, superintendence, and taxes from date of selection of said lands, previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted,* That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, (except so far as may be provided in section fifth of this act,) and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of this act to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in several pursuits and professions in life.

SEC. 5. *And be it further enacted,* That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:—

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency,

be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation, or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their cost and results, and such other matters, including State industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double the minimum in price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionally diminished.

Sixth. No State, while in a condition of rebellion or insurrection against the government of the United States, shall be entitled to the benefit of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its legislature within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted,* That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted,* That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws: *Provided,* their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted,* That the governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same and what appropriation has been made of the proceeds.

Approved July 2, 1862.

An Act to amend Sec. 5 of an Act, &c., July 2, 1862.

Be it enacted, &c., That the time in which the several States may comply with the provisions of the Act of July 2, 1852, entitled "An Act donating public lands, &c." is hereby extended so that the acceptance of the benefits of said act may be expressed within three years from the passage of this act, and the colleges required by the said act may be provided within five years from the date of the filing of such acceptance with the Commissioner of the General Land Office: *Provided,* that when any territory shall become a State, and be admitted into the Union, such new State shall be entitled to the benefits of the said Act of July 2, 1862, by expressing the acceptance therein required within three years from the date of its admission into the Union, and providing the College or Colleges within five years after such acceptance, as prescribed in this Act; *Provided further,* that any State which has heretofore expressed its acceptance of the Act herein referred to, shall have the period of five years within which to provide at least one College, as described in the fourth section of said Act, after the time for providing said College, according to the Act of July 2, 1862, shall have expired.

Approved July 23, 1866.

By JOINT RESOLUTION, approved Feb. 28, 1867, the provisions of the Act of July 2, 1862, and the Act to amend the same, approved July 23, 1866, are extended to the State of Tennessee.

CALIFORNIA.

AN ACT TO ESTABLISH AN AGRICULTURAL, MINING AND MECHANICAL ARTS COLLEGE.

(Approved March 31, 1866.)

SECTION 1. A College is hereby established in accordance with section two of Article IX, of the Constitution of this State, and to carry out in good faith the provisions of an Act of Congress, passed July second, eighteen hundred and sixty-two, granting to the State lands for maintaining an Agricultural and Mechanical Arts College, which shall be known under the name and style of "The Agricultural, Mining and Mechanical Arts College." The design of the Institution in fulfillment of the injunction of the Constitution, is to afford thorough instruction in agriculture, mining, and the natural sciences connected therewith. To effect that object most completely, the institution shall combine physical with intellectual education, and shall be a high seminary of learning, in which the graduate of the common schools can commence, pursue and finish a course of study, terminating in theoretic and practical instruction in those sciences which bear directly upon agriculture, mining and the mechanical arts.

§ 2. That a Board of Directors is hereby established, which shall be known under the name and style of the State Board of Directors of the Agricultural, Mining and Mechanical Arts College. It shall consist of the Governor of the State, the President of the State Agricultural Society, the President of the Mechanics' Institute of the City and County of San Francisco, and five other members. The five members of the Board of Directors shall be elected by the Legislature in joint convention assembled, three of whom shall be residents of the mining counties of this State, who shall hold their office for the term of two years and until their successors are duly elected and qualified. They shall receive no compensation for their services, but shall be paid their traveling and other necessary expenses while employed on the business of the Board.

§ 3. The said Board of Directors shall be a body corporate capable in law of suing and being sued, taking, holding and selling real and personal property, of contracting and being contracted with, of having and using a corporate seal, and of causing all things to be done necessary to carry out the provisions of this act.

§ 4. Any vacancy in said Board, caused by death, resignation, or removal from the State, shall be filled by the remaining members of the Board; *provided, however*, that the person elected to fill any such vacancy shall be chosen from the same county as the one whose place he shall be elected to fill.

§ 5. The Board of Directors provided for in this act shall meet within ten days after the election of the Directors by the Legislature, at the call of and at such place as the Governor of the State, the President of the State Agricultural Society and the President of the Mechanics' Institute, shall direct, and at such other times and places as the Board shall determine.

§ 6. At their first meeting the members shall choose one of their number as President of their own Board, who shall not vote on any question before the Board, unless in case of a tie vote.

§ 7. At the first meeting of the Board, or as soon thereafter as competent persons can be obtained, they shall appoint a Secretary and Treasurer of the Board, neither of whom shall be a member of the Board of Directors. They shall take such bonds from the Secretary and Treasurer as shall be deemed adequate to secure the faithful performance of their duties by those respective officers. The Secretary and Treasurer shall be chosen biennially, and shall hold their offices for two years from the date of their election, and until their successors are chosen and qualified.

§ 8. The Board shall direct the disposal of any and all moneys appropriated to the said College.

§ 9. The Secretary of the Board shall reside and keep his office at or near the said College. It shall be his duty to keep a record of the transactions of the State Board of Directors of said College, which shall be open at all times to the inspection of any citizen of this State. He shall also have the custody of all books, papers, documents, and other property which may be deposited in his office; also keep and file all reports which may be made from time to time by County, State and District Agricultural Societies, Horticultural, Mechanical and Mining Societies; and all correspondence from other persons and societies appertaining to the business of husbandry, mechanics and mining; address circulars to societies, and to the best practical farmers, mechanics and miners in this State and elsewhere, with the view of eliciting information upon the latest and best modes of culture of those products, vegetables, trees, &c., adapted to the soil and climate of our State, and also on all subjects connected with field culture, horticulture, stock raising and the dairy; he shall also correspond with established schools of mining and metallurgy in Europe, and obtain such information respecting the improvements of mining machinery adapted to California, and publish from time to time such information as will be of practical benefit to the mining interests and the working of all oars and metals; receive and distribute such rare and valuable seeds, plants, shrubbery, and trees, as may be in his power to procure from the General Government and other sources, as may be adapted to our climate and soils. To these objects he shall correspond with the Patent Office at Washington, and with the representatives of our National Government abroad, and if possible, procure valuable contributions to agriculture from those sources. He shall aid as far as possible in obtaining contributions to the museums and the library of the said College, and thus aid in the promotion of agriculture, science and literature. He shall keep a correct account of all the proceedings of the Board, and an accurate account of all the moneys received into the Treasury as well as those paid out.

§ 10. The seeds, plants, trees and shrubbery received by the Secretary, and not needed by the College, shall be, so far as possible, distributed without charge equally throughout the State, and placed in the hands of those farmers and others who will agree to cultivate them properly and return to the Secretary's office a reasonable proportion of the products thereof, with a full statement of the mode of cultivation and such other information as may be necessary to ascertain their value for general cultivation in the State. Information in regard to agriculture and metallurgy may be published by him from time to

time in the newspapers of the State; *provided* it does not involve any expense to the State.

§ 11. The Secretary shall report to the Legislature at every regular session thereof, and to the Governor of the State on the first Monday in November in each year when the Legislature is not in session, which reports shall embrace all such statements, accounts, statistics, prize essays, and all other information relative to agriculture and mining in general, and proceedings of the State Board of Directors of said College and farm, to be approved by the Board.

§ 12. The Secretary shall receive as a compensation for his services such a sum as the Board of Directors shall determine, paid quarterly from the State Treasury, in the same manner, as is provided by law for the salaries of State officers.

§ 13. The course of instruction shall embrace the English language and literature, mathematics, civil, military and mining engineering, agricultural chemistry, mineralogy, metallurgy, animal and vegetable anatomy and physiology, the veterinary art, entomology, geology, technology political, rural and household economy, horticulture, moral and natural philosophy, history, book-keeping, and especially the application of science and the mechanical arts to practical agriculture in the field, and mining.

§ 14. The Board of Directors may at any time suspend the sessions of the College temporarily, in case of fire, the prevalence of fatal diseases, and other unforeseen calamity.

§ 15. The said Board of Directors shall have the general control and supervision of the said College, the farm pertaining thereto, and lands which may be vested in the College by State legislation, purchase or donations; of all appropriations made by the State for the support of the same; and also the management of any lands that may be hereafter donated by the General Government to this State in trust for the promotion of industrial pursuits. The Board shall have plenary power to adopt all such ordinances, by-laws and regulations, not in conflict with this Act, as they may deem necessary to secure the successful operation of the College and promote its designed object.

§ 16. It shall be the duty of the said Board of Directors to choose a President of the said College before the commencement of the first term of the institution. They shall proceed to choose such tutors, professors and employees, as the necessities of the institution demand. In case of a vacancy in the office of the President, or in case a suitable man cannot be selected, the President of the said Board of Directors, or such member of the Board as shall be designated by them, shall be President *pro tem.* of the College, who shall receive such compensation for his services as the Board shall determine.

§ 17. The President, professors of the College when chosen, and tutors, shall constitute the Faculty of said College. The President of the College shall be President of the Faculty.

§ 18. The Board of Directors, with the advice and consent of the Faculty, shall regulate the course of instruction, prescribe the books to be used, and confer upon the graduates such testimonials as they may see proper.

§ 19. The Faculty shall pass all needful rules and regulations necessary to the government and discipline of the College, regulating the routine of labor, study, meals, and the duties and exercises, and all such rules and regulations as are necessary to the preservation of morals, decorum and health.

§ 20. The Faculty shall have charge of the laboratories, mineralogical cabinets and metallurgical works, library and museums of the institution.

§ 21. The Faculty shall make an annual report by the first Monday in November of each year, to the said Board of Directors, signed by the President, containing such information and recommendations as the welfare of the institution in their opinion demands. Any member of the Faculty may make a minority report, if they disagree with the conclusions of the majority, which the Faculty shall communicate to the Board. No communications at any other time, from members of the Faculty, shall be entertained by the Board, unless they have been submitted to a meeting of the Faculty, and sanctioned by a majority.

§ 22. The President of the Faculty shall be the chief executive officer of the said College, and it shall be his duty to see that the rules and regulations of the State Board of Directors and the rules and regulations of the Faculty, be observed and executed.

§ 23. The President of the College shall perform the duties of a professor. The Board of Directors shall appoint a Superintendent of the farm, and define his duties.

§ 24. The subordinate officers and employees, not members of the Faculty, shall be under the direction of the Superintendent, and in the recess of the Board of Directors, removable at his discretion; and he may supply vacancies that may be by them or otherwise created. His action in these respects shall be submitted to the approval of the State Board of Directors at their next meeting.

§ 25. For the current expenditures of said College specific sums of money shall be set aside in the hands of the Treasurer by the Board of Directors, which shall be subject to the warrants of the President of the Board, drawn in pursuance of the orders of the Directors. All moneys received from labor, or other sources, shall be paid into the Treasury of the College. All moneys due to the institution, or received in its behalf, shall be collected and received by the Secretary, and deposited by him with the Treasurer of the State Board of Directors, taking his receipt therefor. The Secretary shall, with his annual report, render a full and complete account of all moneys received and all warrants drawn on the Treasurer by him as Secretary of the Board, and shall file and preserve all vouchers, receipts, correspondence, and other papers relating thereto.

§ 26. When the institution shall be brought to such condition of maturity as to promise satisfactory results, the Board of Directors shall make such rules and regulations as they may deem necessary in relation thereto, and the Faculty shall cause such comparisons, tests, trials, and experiments, scientific and practical, to be made, as may in their opinion conduce to the instruction of the students and the progress of agriculture and mining, and shall cause the results to be published in the annual reports.

§ 27. The said College shall be located in such portion of the State as the Board of Directors shall determine. Said Board at their first meeting shall invite proposals, by the publication for the period of ten months, for donations of land, money or buildings from counties, cities, or individuals, to be given to said College in consideration of its being located by the Directors at any place designated by the donors; and the said Board, after a careful investigation of all proposals made, shall determine the location with particular reference

to accessibility and adaptability of climate and soil; *provided*, that the same shall not be united or connected with any other institution of learning in this State.

§ 28. The said Board shall purchase or receive donations of land for a College farm, and cause to be erected thereon such buildings as they may deem necessary; *provided*, that any contract for building shall be let to the lowest bidder, after reasonable notice; and *provided further*, that the farm shall not be of less than one hundred and sixty acres of land.

§ 29 All interest accruing from the sale of one hundred and fifty thousand acres of land granted to this State by Act of Congress, A. D. eighteen hundred and sixty-three, and the interest that has accrued and may accrue from the sale of the seventy-two sections of land donated to the State for a seminary of learning, and all moneys arising from the sale of the ten sections granted to this State for the use of public buildings, together with all interest that has accrued or may accrue thereon, shall be subject to the order of the State Board of Directors.

§ 30. The College shall not in any manner whatever be connected with or controlled by any sectarian denomination.

AN ACT TO PROVIDE FOR THE SELECTION OF LANDS DONATED TO THE STATE OF CALIFORNIA BY ACT OF CONGRESS APPROVED JULY 2, 1862.

(Approved April 2, 1866.)

SECTION 1. The Governor of this State, the President of the State Agricultural Society, and the Surveyor General, shall constitute a Board to be known as the Agricultural College Land Board, and said Board shall have the control and management of the selection of all the lands granted to this State by Act of Congress, approved July second, eighteen hundred and sixty-two, providing for the endowment of Colleges for the benefit of agriculture and the mechanic arts, and of all lands that may hereafter be granted for that purpose. Said Board shall appoint one or more suitable Commissioners, whose duty it shall be to select unoccupied, unappropriated and surveyed public lands, and locate as soon as practicable the quantity of land donated to this State by the Act of Congress aforesaid, and to make return of the lands so located, to the Register of the State Land Office of the State of California, properly designated and described, and to notify the Registers of the United States District Land Offices for the districts in which the selection and location is made, of such selection as fast as the land is so selected.

§ 2. The Register of the State Land Office, shall, as fast as such selections are made and returned to him, forward to the Secretary of the Interior of the United States, full and complete descriptions of all such lands, and obtain the necessary title to the State of California for the same.

§ 3. The Agricultural Land Board shall certify, from time to time to the Board of Examiners of this State, the amounts required to pay expenses of selecting, locating and making returns of said lands, and the Comptroller of State shall draw his warrant upon the Treasurer for the amount certified to be due by the Board of Examiners, and the Treasurer shall pay the same out of any

money in the Treasury not otherwise appropriated. They shall also report to the Board of Directors of the Agricultural, Mining, and Mechanical Arts College, on or before the first day of October, A. D. eighteen hundred and sixty-seven. As soon as practicable after this act shall have gone into effect, said Board shall apply to the Commissioners of the General Land Office for an order directing the Registers of the several district land offices in this State to withdraw from market, and so mark on their Plates any of the lands of the United States subject to sale at private entry that may be selected by authority of this Board, whenever the Register shall have been notified of such selections. All certificates, contracts, or other papers emanating from said Board, shall be signed by the Chairman and Secretary of said Board.

CONNECTICUT.

AN ACT APPROPRIATING TO THE SHEFFIELD SCIENTIFIC SCHOOL OF YALE COLLEGE, THE PROCEEDS OF LANDS ASSIGNED TO THE STATE BY ACT OF CONGRESS APPROVED JULY 2, 1862.

(Approved June 24, 1863.)

SEC. 1. Whenever the Secretary of the Interior shall have issued to this State, the land scrip due to this State, under the act of Congress, entitled "An Act donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," it shall become the duty of the Commissioner of the School Fund to take charge of said scrip, and, as agent of this State, to sell the same, so soon as in his judgment he can prudently do so, upon terms to be previously approved by the Governor, and in the name and behalf of this State, to convey and transfer the same in any suitable manner to the purchaser or purchasers thereof, and to invest the avails thereof in the manner specially prescribed by said act of Congress.

§ 2. Said Commissioner shall semi-annually pay over the interest of the Fund which may result from the sale of said scrip, to the President and Fellows of Yale College in New Haven, for the special purposes and upon the special conditions hereinafter set forth.

§ 3. Said Corporation shall devote said interest wholly and exclusively to the maintenance, in that department of Yale College known as the "Sheffield Scientific School," of such courses of instruction as (including the courses of instruction already instituted in said school,) shall carry out the intent of said act of Congress in the manner specially prescribed by the fourth section of said Act.

§ 4. Said Corporation shall furnish gratuitous education in said courses of instruction to pupils who shall be annually nominated to be pupils of said school, in such manner as the General Assembly shall prescribe. The number of pupils to be so received gratuitously into said school shall be, in each year, such a number as would expend a sum equal to one-half of the said interest for the same year in paying for their instruction in said school if they were required to pay for it at the regular rates charged to other pupils of said school for the same year. Said pupils so nominated and received shall be citizens of this State, and shall be admitted into said school upon the same terms and subject to the same rules and discipline which shall apply to all other pupils of said school, with the single exception that they shall not be required to pay anything for their instruction.

§ 5. Said Corporation shall annually make and distribute the reports required by the fourth paragraph of section fifth of said act of Congress.

§ 6. No portion of said interest shall be paid over to said Corporation until said corporation shall contract with this State, by its contract in writing, in such form as the Governor shall approve, to fulfill and perform all the duties and obligations imposed upon it by this Act.

§ 7. The Governor, the Lieutenant Governor, the three senior Senators, and the Secretary of the State Board of Education, shall constitute a Board of Visitors, whose duty it shall be to visit said school in each year, and report annually thereon to the General Assembly.

AN ACT RELATING TO THE SHEFFIELD SCIENTIFIC SCHOOL.

Approved July 6, 1864.

SEC. 1. The visitors of the Sheffield Scientific School designated by the Act approved June 24, 1863, and entitled "An Act appropriating the Scrip of public lands granted to this State under an Act of Congress approved July 2, 1862," to wit: the Governor, the Lieutenant Governor, the three senior Senators, and the Secretary of the State Board of Education, shall constitute, together with the Secretary of the Sheffield Scientific School, an appointing board, who shall select from such candidates as shall offer themselves, those who shall be entitled to receive the gratuitous instruction in said school, which has been provided for by the State in said Act.

§ 2. In case there are more applications for the bounty of the State than there are vacancies to be filled on the part of the State, said Board shall give the preference to such young men as are fitting themselves for agriculture and mechanical and manufacturing occupations in life, who are or shall become orphans through the death of a parent in the naval or military service of the United States; next to them to such as are most in need of pecuniary assistance; and furthermore, they shall provide that the appointments shall be distributed, as far as practicable, among the several counties of the State, in proportion to their population.

§ 3. The Secretary of said school shall also be the Secretary of said appointing board, and shall keep a record of their transactions; and he shall furthermore, at least one month before the close of each academic year in said school, cause to be published in at least one newspaper in every county of this State in which a newspaper may then be published, an advertisement specifying the number of pupils who by virtue of said act are entitled to be admitted into said school for gratuitous instruction during the ensuing academic year, and designating the time and manner in which applications may be made to said appointing board for admission to said school.

DELAWARE.

AN ACT ESTABLISHING A COLLEGE FOR AGRICULTURAL AND MECHANIC ARTS IN THIS STATE.

(Approved March 14, 1867.)

Whereas, the legislature of this State, by a recent act accepted the provisions of an act of congress approved July 2, 1862, entitled, "An act donating public lands to the several States and Territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts;" *and whereas*, the said act of congress renders it the duty of the State to provide the buildings, grounds and appliances necessary to carry out the objects of said act; *and whereas*, the board of trustees of Delaware College have proposed to convey to the State of Delaware a joint and equal interest in the grounds, buildings, libraries, apparatus and vested funds of said college proper, upon the condition that the State shall vest the *income* to be derived from the sale of the said lands in a board of trustees, not more than one-half of whom shall be the representatives of the State, and the remainder the representatives of the present board, for the purpose of establishing at Newark, in connection with said college, an institution which shall meet the requirements of the act of congress, and extend to the people of our State the benefits of its provisions; therefore,

Be it enacted by the Senate and House of Representatives of the State of Delaware in General Assembly met:

SECTION 1. That the proposition of the board of trustees of Delaware College be and the same is hereby accepted, and that Delaware College is adopted and established as the institution to be provided by the State of Delaware, in accordance with the provisions of the act of congress approved July 2, 1862, entitled, "An act donating public lands to the several States and Territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts."

§ 2. That the State treasurer, in conjunction with the governor of the State and the president of the board of trustees of Delaware College, is hereby authorized and required to sell and assign, upon such terms and conditions as they may deem best for the interests of the State of Delaware, the whole or any part of the scrip or land warrants issued or to be issued to the State by virtue of said act of congress.

§ 3. That the proceeds of the sale or sales aforesaid shall be invested by the said treasurer in interest bearing bonds of this State, or of the United States, at his discretion, the principal of which bonds shall forever be held sacred for the purposes contemplated in the act of congress aforesaid, and shall not be transferable except by a special act of the legislature.

§ 4. That the State treasurer may perform and discharge any of the acts, trusts or duties authorized, directed or conferred herein, by any agent or agents by him selected and appointed by and with the consent and advice of the gov-

error of the State. All costs and expenses incurred in selling or assigning the said land scrip, or in investing the proceeds thereof, shall be allowed and paid out of any funds in the State treasury not otherwise appropriated.

§ 5. That the State treasurer shall, semi-annually, receive and pay over the interests of said bonds to the treasurer of the board of trustees to the Delaware College, for the purposes and on the conditions hereinafter mentioned.

§ 6. That the board of trustees of Delaware College shall devote said interest to the maintenance of such course or courses of instruction in said college as shall carry out the intent of the act of congress aforesaid, and shall provide for the gratuitous instruction of one pupil from each hundred in the State, who shall be annually nominated to be pupils of said college, in such manner as the legislature may prescribe. Said pupils so nominated and received shall be residents of this State, and shall be admitted into said college upon the same terms and subject to the same rules and discipline which shall apply to all other pupils of said college, with the single exception that they shall not be required to pay anything for their instruction.

§ 7. Said board of trustees shall, annually, on or before the first day of February, in each and every year, make up and distribute the reports required by the fourth paragraph of the fifth section of said act of congress.

§ 8. That the governor be and is hereby authorized to appoint five trustees from each county in the State, to be members of the board of trustees of Delaware College on behalf of the State, and to fill all vacancies which may arise in such appointments, occasioned by death, resignation or otherwise, and that the present board of trustees of Delaware College shall fill up the remaining vacancies in said board, in the manner and to the number prescribed in the charter of Delaware College, as well as to fill any vacancies which may hereafter arise in their number, and the joint board of trustees, thus recognized, shall have the entire control and management of said institution, subject to the provisions of its charter and the terms of this act :

Provided, That said institution shall never be managed or conducted in the interests of any party, sect or denomination.

§ 9. That the board of trustees of Delaware College shall report such amendments to this act, or such further acts or laws, as they may deem necessary and proper to carry out the objects contemplated by this act.

ILLINOIS.

AN ACT IN RELATION TO THE LOCATION OF THE INDUSTRIAL UNIVERSITY.

(Approved January 25, 1867)

WHEREAS, each portion of the state is alike interested in the proper location of said University, and it is desirable to enable the public spirit of each community or section to fully compete for such location; therefore, *Be it enacted, &c.*

SECTION 1. That any county, city, township, or incorporated town of said state, may, by taxation, as well as by voluntary subscription of its citizens, raise a fund to secure the location of said University at any point whatever; and any other corporation in this state may make bids and subscription for the purpose of securing said location at any point whatever.

§ 2. That any county through its county courts or board of supervisors, and any township or town, through its supervisor, assessor and collector, and any city or incorporated town, through its council or board of aldermen, or other constituted authorities, as the case may be, may subscribe such sum or sums as they may deem necessary, to secure such location, and to raise the amount or amounts so subscribed by taxation, or by issuing bonds, payable at any seasonable or convenient time, and bearing any rate of interest not exceeding ten per cent. per annum: *Provided, however,* that no tax shall be levied for such purpose until the proposition so to raise a fund, together with the amount to be raised shall, after at least ten days' notice, be submitted to a vote of the people so to be taxed, and be approved by a majority of the persons voting at such election: *Provided,* that the county clerk of such county shall order an election in accordance with the provisions of this act; *And provided, also,* that it shall not be obligatory on any county, city or town authorities, or county clerk, as aforesaid, to submit any such proposition to a vote of the people, unless at least one hundred of the legal voters of said county, city or town shall petition for the same; in which event said election or elections shall be ordered: *And provided further,* that any election heretofore held in any county, city or town, for the purpose aforesaid, is hereby legalized and made valid.

§ 3. The county, city or town authorities, as aforesaid, are hereby invested with full power to make any and all needful orders and regulations to carry into effect the foregoing provisions; and in case of an election being applied for, as aforesaid, it shall be the duty of said authorities to give the usual and seasonable notices, required by law, according to this act, and the end in view, and to conduct and report the same in the usual way. Such election to be conducted and return made according to the law governing elections: *Provided,* that the registry of votes used at the last general [election] shall be the registry for any election to be held under this act.

AN ACT TO PROVIDE FOR THE ORGANIZATION AND MAINTENANCE OF THE ILLINOIS INDUSTRIAL UNIVERSITY.

Approved February 28, 1867.

SECTION 1. That it shall be the duty of the governor of this state within ten days from the passage of this act, to appoint five trustees, resident in each of the judicial grand divisions of this state, who, together with one additional trustee, resident in each of the congressional districts of this state, to be appointed in like manner, with their associates and successors, shall be a body corporate and politic, to be styled "The Board of Trustees of the Illinois Industrial University;" and by that name and style shall have perpetual succession, have power to contract and be contracted with, to sue and be sued, to plead and be impleaded, to acquire, hold and convey real and personal property; to have and use a common seal, and to alter the same at pleasure; to make and establish by-laws, and to alter or repeal the same as they shall deem necessary, for the management or government, in all its various departments and relations, of the Illinois Industrial University, for the organization and endowment of which provision is made by this act. Said appointments to be subject to approval or rejection by the Senate at its next regular session thereafter, and the appointees to be and they are hereby authorized to act as trustees as aforesaid, until their successors shall be appointed by the governor and such appointment shall be approved by the senate.

§ 2. The members of the board of trustees, and their successors, shall hold their office for the term of six years each: *Provided*, that at the first regular meeting of said board, the said members shall determine by lot, so that, as nearly as may be, one-third shall hold their office for two years, one-third for four years, and one-third for six years from the first day of said meeting. The governor, by and with the advice and consent of the senate, shall fill all vacancies which may at any time occur by expiration of term of office, or otherwise, in said board, by appointment of suitable persons resident in the respective grand divisions and congressional districts in which such vacancies may occur. Said board of trustees may appoint an executive committee of their own number, who when said board is not in session, shall have the management and control of the same, and for that purpose have and exercise all the powers hereby conferred on said board which are necessary and proper for such object.

§ 3. In case the board of trustees shall at any time determine to establish a branch or department of said University at any points elected by them, such branch or department shall be under the control of the members of said board residing in the grand division and congressional district where such branch shall be located, unless otherwise ordered by said board of trustees: *Provided* that no portion of the funds resulting from the congressional grant of land for the endowment of said University, or from any donation now or hereafter to be made by the county, city or town at or near which said University is located; and no portion of the interest or proceeds of either of said funds shall ever be applied to the support of any branch or department located outside of the county wherein said University is located by this act.

§ 4. The first regular meeting of the board of trustees shall be held at such place as the governor may designate, on the second Tuesday in March A. D.

1867, at which meeting they shall elect a regent of the university, who, together with the governor, superintendent of public instruction and president of the state agricultural society, shall be *ex-officio*, members of said board of trustees. Said regent, if present, shall preside at all meetings of the board of trustees and of the faculty, and shall be charged with general supervision of the educational facilities and interests of the University. His term of office shall be two years, and his compensation shall be fixed by the board of trustees.

§ 5. At the first, and at each biennial meeting thereafter, it shall be the duty of the board to appoint a treasurer, who shall not be a member of the board, and who shall give bonds, with such security as the board of trustees shall deem amply sufficient to guard the University from danger of loss or diminution of the funds intrusted to his care. The trustees may appoint, also, the corresponding secretary, whose duty it shall be, under the direction or with the approval of the trustees, to issue circulars, directions for procuring needful materials for conducting experiments, and eliciting instructive information from persons in various counties, selected for that purpose, and skilled in any branch of agricultural, mechanical and industrial art; and to do all other acts needful to enable him to prepare an annual report regarding the progress of the University, in each department thereof—recording any improvements and experiments made, with their costs and results, and such other matters, including state, industrial and economical statistics, as may be supposed useful; not less than five thousand copies of which reports shall be published annually, and one copy be transmitted by said corresponding secretary, by mail, free, to each of the other colleges endowed under the provisions of an act of congress, approved July 2, 1862, entitled “An act donating lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts; one copy to the United States Secretary of the interior; and one thousand copies to the Secretary of state of this state, for the state library, and for distribution among the members of the general assembly. Also, a recording secretary, whose duty it shall be to keep faithful record of the transactions of the board of trustees, and prepare the same for publication in said annual report. The said treasurer, corresponding and recording secretaries to receive such compensation as the trustees may fix, and to be paid in the same manner as the teachers and other employees of the university are paid.

§ 6. No money shall be drawn from the treasury of the University, except by order of the board of trustees, on warrant of the regent, drawn upon the treasurer, and countersigned by the recording secretary.

§ 7. The trustees shall have power to provide the requisite buildings, apparatus and conveniences; to fix the rates for tuition; to appoint such professors and instructors, and establish and provide for the management of such model farms, model art, and other departments and professorships, as may be required to teach, in the most thorough manner, such branches of learning as are related to agriculture and the mechanic arts, and military tactics, without excluding other scientific and classical studies. They may accept the endowments of voluntary professorships or departments in the University, from any person or persons or corporations who may proffer the same, and, at any regular meeting of the board, may prescribe rules and regulations in relation to such endowments, and declare on what general principles they may be admitted:

Provided, that such special voluntary endowments or professorships shall not be incompatible with the true design and scope of the act of congress, or of this act; and they shall, as far as practicable, arrange all the regular and more important courses of study and lectures in the University, so that the students may pass through and attend upon them during the six autumn and winter months, and be left free to return to their several practical arts and industries at home during the six spring and summer months of the year, or to remain in the University and pursue such optional studies or industrial avocations as they may elect: *Provided*, that no student shall at any time be allowed to remain in or about the University in idleness, or without full mental or industrial occupation: *And provided further*, that the trustees, in the exercise of any of the powers conferred by this act, shall not create any liability or indebtedness in excess of the funds in the hands of the treasurer of the University at the time of creating such liability or indebtedness, and which may be specially and properly applied to the payment of the same.

§ 8. No student shall be admitted to instruction in any of the departments of the University who shall not have attained to the age of fifteen (15) years, and who shall not previously undergo a satisfactory examination in each of the branches ordinarily taught in the common schools of the state.

§ 9. Each county in this state shall be entitled to one honorary scholarship in the University, for the benefit of the descendants of the soldiers and seamen who served in the armies and navies of the United States during the late rebellion—preference being given to the children of such soldiers and seamen as are deceased or disabled; and the board of trustees may, from time to time, add to the number of honorary scholarships when, in their judgment, such additions will not embarrass the finances of the University; nor need these additions be confined to the descendants of soldiers or seamen; such scholarships to be filled by transfer from the common schools of said county, of such pupils as shall, upon public examination, to be conducted as the board of trustees of the University may determine, be decided to have attained the greatest proficiency in the branches of learning usually taught in the common schools, and who shall be of good moral character, and not less than fifteen (15) years of age. Such pupils, so selected and transferred, shall be entitled to receive, without charge for tuition, instruction in any or all departments of the University for a term of at least three (3) consecutive years: *Provided*, said pupil shall conform, in all respects, to the rules and regulations of the University, established for the government of the pupils in attendance.

§ 10. The faculty of the University shall consist of the chief instructors in each of the departments. No degrees shall be conferred, nor diplomas awarded by authority of the board of trustees, or of the faculty, except that the trustees, on recommendation of the majority of the faculty, may authorise the regent of the University to issue to applicants certificates of scholarship, under the seal of the University; which certificate shall, as far as practicable, set forth the precise attainments, as ascertained by special examination, of the parties applying for the same, respectively, in the various branches of learning they may have respectively studied during the attendance in the University, and every pupil who shall have attended upon instruction in the University for not less than one year, maintaining, meanwhile, a good character for faithful

ness in study and correctness of deportment, and who may desire to cease such attendance, shall be entitled to receive such certificate of scholarship as is authorized by this section to be issued. All certificates of scholarships shall be in the English language, unless the pupil should otherwise prefer; and all names and terms on labels, samples, specimens, books, charts and reports shall be expressed, as nearly as may be in the English language.

§ 11. No member of the board of trustees shall receive any compensation for attending on the meetings of the board. At all the stated and other meetings of the board of trustees, called by the regent or corresponding secretary, or any five members of the board, a majority of the members shall constitute a quorum: *Provided*, all the members have been duly notified.

§ 12. It shall be the duty of the board of trustees to permanently locate said University at Urbana, in Champaign county, Illinois, whenever the county of Champaign shall, according to the proper forms of law, convey or cause to be conveyed to said trustees in fee simple, and free from all incumbrances, the Urbana and Champaign Institute buildings, grounds and lands, together with the appurtenances thereto belonging, as set forth in the following offer in behalf of said county, to wit:

The undersigned, a committee appointed by the board of supervisors of Champaign county, are instructed to make the following offer to the state of Illinois, in consideration of the permanent location of the Illinois Industrial University at Urbana, Champaign County, viz: We offer the Urbana and Champaign Institute buildings and grounds, containing about ten acres; also, one hundred and sixty acres of land adjacent thereto; also, four hundred acres of land, it being part of section No. twenty-one, in township No. nineteen north, range No. nine east, distant not exceeding one mile from the corporate limits of the city of Urbana.

Also four hundred and ten (410) acres of land, it being part of section No. nineteen, township No. nineteen, range No. nine east, within one mile of the buildings herein offered.

Also, the donation offered by the Illinois Central Railroad Company of fifty thousand dollars worth of freight over said road for the benefit of said University.

Also, one hundred thousand dollars in Champaign county bonds, due and payable in ten years, and bearing interest at the rate of ten per cent. per annum, and two thousand dollars in fruit, shade and ornamental trees and shrubbery, to be selected from the nursery of M. L. Dunlap, and furnished at the lowest catalogue rates, making an estimated valuation of four hundred and fifty thousand dollars (\$450,000.) Titles to be perfect, and conveyance to the state to be made or cause to be made by the county of Champaign, upon the permanent location of the Illinois Industrial University upon the said grounds, so to be conveyed as aforesaid, and we hereby in our official capacity guarantee the payment of said bonds and the faithful execution of the deeds of conveyance, free from all incumbrances, as herein set forth.

W. D. SOMERS, T. A. COSGROVE, C. R. MOOREHOUSE,

Committee.

§ 13. The board of trustees shall, by and with the advice and consent of the governor and adjutant general, procure all such arms, accoutrements, books and instruments, and appoint such instructors, as may, in their discretion, be required to impart a thorough knowledge of military tactics and military engineering, and they may prescribe a uniform dress to be worn by the pupils of the University.

§ 14. That upon the organization of the board of trustees and the appointment of said treasurer, and the filing with and the approval by said board of

the bond of said treasurer, and all of said foregoing acts being duly certified to the governor, under the hand of said regent, countersigned by the said recording secretary, it shall then become the legal duty of said governor to deliver over to said treasurer the land scrip issued by the United States to this state, for the endowment of said University, and that thereupon it shall become the duty of said treasurer to sell and dispose of said scrip at such time, place, in such manner and quantities, and upon such terms as such board shall, from time to time, prescribe, or to locate the same as said board may direct. Said treasurer being in all respects pertaining to the sale of said scrip, and the reinvestment of the proceeds received therefor, and the securities when reinvested, subject to such order and control of said board as is not inconsistent with this act and the act of congress providing for the endowment of said university.

§ 15. That all the right, title and interest of the State of Illinois in and to said land scrip, is hereby invested in the Illinois Industrial University, for the use and purposes herein contained; and said scrip shall be assigned to said University by the governor of the state of Illinois on each certificate, and attested by the secretary of state, under the seal of the state; and that the transfer of said scrip to purchasers by assignment on the back thereof, by the said officers of said University, under the seal thereof, in manner following, shall be deemed sufficient in law, to wit:

STATE OF ILLINOIS, }
Illinois Industrial University } ss.

For value received, the State of Illinois hereby sells and assigns to . . . the within scrip, and authorizes . . . to locate the same, and obtain a patent on such location.

Given under our hands and the seal of said University this day of A. D. 186

A. B., *Regent.*
 C. D., *Treasurer.*

Countersigned by
 E. F., *Recording Secretary.*

§ 16. That upon said treasurer making sale of any of said scrip, he shall at once invest the fund so received, report the same to the said board, stating amount sold, price obtained and how the same was by him invested; which report shall be filed with the recording secretary, who shall transmit a copy of the same to the governor of said state, and he to the congress of the United States, in accordance with said act of congress.

§ 17. That the said board shall order upon its minutes which of the several kinds of securities mentioned in the fourth section of said act of congress said treasurer shall invest proceeds of sales in.

§ 18. The bond required to be given by said treasurer shall be conditioned for the faithful discharge of his duties as treasurer of the "Illinois Industrial University," and for any breach thereof suit may be instituted, in the name of the "Illinois Industrial University;" and it shall be deemed a criminal offense for any person or persons holding in trust any part of the funds of said University knowingly or negligently to misapply or misappropriate the same, indictable in any court having jurisdiction, in the same manner as other crimes are punishable, by fine or imprisonment, at the discretion of the court, according to the nature of the offense.

AN ACT SUPPLEMENTAL TO AN ACT ENTITLED "AN ACT TO PROVIDE FOR THE ORGANIZATION, ENDOWMENT AND MAINTENANCE OF THE ILLINOIS INDUSTRIAL UNIVERSITY."

March 8th, 1867.

SECTION 1. *Be it enacted by the people of the State of Illinois, represented in the General Assembly,* That if the legal authorities of the county of Champaign shall not, by or before the first day of June, 1867, convey or cause to be conveyed, to the board of trustees of the Illinois Industrial University, by a good and unincumbered title, in fee simple, all the real estate mentioned and contained in the propositions of said county, and which real estate is described and set out in the act to which this act is supplemental, amounting to nine hundred and eighty acres of land, and if said county shall not also pay over and deliver to said trustees by said day, all the bonds and other property offered by said county, mentioned in said act, then said board of trustees or a majority of them shall proceed without delay to permanently locate and establish said Industrial University in McLean, Logan, or Morgan county; such county so selected shall in like manner be required in all things to fulfill and comply with the conditions and provisions of the offer heretofore made by such county, as an inducement for the location of said University in said county.

INDIANA.

AN ACT ACCEPTING THE PROVISIONS OF AN ACT OF CONGRESS APPROVED JULY 2, 1862, AND THE ACT APPROVED APRIL 14, 1864, EXTENDING THE SAME.

(Approved March 6, 1865.)

SECTION 1. That the State of Indiana accepts and claims the benefits of the provision of said Acts of Congress, and assents to all the conditions and provisions in said acts contained.

§ 2. That the Governor of the State, for the time being, and Alfred Pollard, of Gibson, Smith Vawter, of Jennings, Henry Taylor of Tippecanoe, and Lewis Burke of Wayne, and their successors, are created a body corporate under the name of The Trustees of the Indiana Agricultural College.

§ 3. Said Henry Taylor and Lewis Burke shall hold said office for two years, and said Alfred Pollard and Smith Vawter shall hold the same for four years; *provided* they so long behave well, and at the expiration of each period of two years from the passage of this act the Governor and the remaining Trustees shall choose by ballot two citizens of this State to fill the vacancy caused by the expiration of the terms of office of such preceding Trustees, who shall hold their office for the term of four years; *provided* they so long behave well. And whenever any other vacancy shall occur among said Trustees, they shall, in like manner, choose some citizen of this State to fill the same, who shall hold his office during the residue of the unexpired term of his predecessor, *provided* he so long behave well.

§ 4. The Governor of this State, for the time being, shall be, *ex officio*, President of said Trustees; and said Trustees shall, upon the first Tuesday of May, A. D. 1865, and every two years thereafter and whenever a vacancy occurs, elect, by ballot, a Secretary and Treasurer, whose compensation shall be fixed by said Trustees. The said Treasurer shall give bonds to the State of Indiana, in the sum of not less than two hundred thousand dollars, for the faithful execution of his trust, with sufficient sureties, to the approbation of said Trustees.

§ 5. That said Trustees shall, by the hand of their Treasurer, claim and receive from the Secretary of the Interior the land scrip to which this State is entitled by the provisions of said Act of Congress; and under their direction, the said Treasurer shall sell the same, in such manner and at such times as shall be most advantageous to the State, and shall invest the proceeds thereof, and any interest that may accrue thereon, in stocks of the United States or of this State, yielding not less than five per centum per annum upon the par value of the Stocks; and that the said principal and interest shall so continue to be so invested, until further provision shall be made by the General Assembly of this State for fulfilling the requirements of said Act of Congress.

§ 6. That there is appropriated, to be paid annually to said Trustees, out of the State Treasury, a sum of money sufficient to defray the actual expenses

incurred in obtaining and selling said land scrip and in investing and managing the proceeds thereof, the items of which shall be certified to by said Trustees; and the Auditor of State shall draw his warrant on the Treasurer of the State, and the Treasurer shall pay the same. And the said Trustees shall receive three dollars per day for their services while so engaged.

§ 7. The Governor of this State shall report annually to Congress, all sales made of said land scrip, until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

§ 8. That an emergency exists for this act to take immediate effect, and it shall take effect from and after its passage.

IOWA.

AN ACT RELATING TO BOARD OF TRUSTEES OF STATE AGRICULTURAL COLLEGE AND FARM.

(Approved March 24, 1866.)

SECTION 1. *Be it enacted by the General Assembly of the State of Iowa*, That the State Agricultural College and Farm shall be under the management of a board of trustees, composed of one member elected from each judicial district. The governor, and the president of the State Agricultural College and Farm, shall be, *ex officio*, members of the board.

§ 2. The present session of the general assembly shall elect in joint convention all of said board of trustees, six of whom shall serve for the term of two years, and the other six for the term of four years, from the first day of May, 1866; and the general assembly at each biennial session thereafter, shall elect one-half of said board of trustees, who shall serve from the first of May after their election. The board of trustees shall at their first meeting under this act, which shall be on the first Thursday of May for 1866, at the capitol of the State, determine by lot, their several terms of service, and every succeeding year, they shall hold their annual meetings on the second Monday of January, at the capitol of the State. Any vacancies in the board of trustees, caused by death, removal from the district or the State, resignation, or failing to qualify within sixty days after their election, may be filled by a vote of a majority of the members of said board.

§ 3. The board of trustees shall elect a treasurer at their annual meeting in each year, who shall receive and keep all the moneys arising from the sale of the products of the farm, and from any other source, and give bonds in such sum as the board of trustees may require. He shall pay over all moneys, upon the warrant of the president, and countersigned by the secretary. He shall render, annually, in the month of January, to the board of trustees, and as often as may be required by said board, a full and true statement of all moneys received and disbursed by him.

§ 4. Sections 1715, 1716, 1739, of chapter 67 of Revision of 1860, and section 6 of chapter 121 of the acts of the tenth general assembly, (1864,) and all acts and parts of acts in conflict with the provisions of this act, are hereby repealed.

AN ACT AUTHORIZING AND REGULATING THE SALE AND LEASE OF LANDS BELONGING TO THE IOWA STATE AGRICULTURAL SOCIETY.

(Approved March 29, 1866.)

SECTION 1. *Be it enacted by the General Assembly of the State of Iowa*, That the trustees of the Iowa State Agricultural College and Farm, are hereby authorized to sell or lease all of the lands granted to the State of Iowa, by the act of congress entitled "An act donating public lands to the several States and

Territories which may provide Colleges for the benefit of Agriculture and Mechanic Arts," approved July 2, 1862, which grant was accepted by the general assembly of the State of Iowa, Sept. 11, 1862, upon the following conditions, regulations, and restrictions, to wit. None of said lands shall be sold for a less sum than fifty per cent. above the price that each piece of said lands respectively was appraised at by the trustees of the agricultural college and farm in the year 1865, but may be sold by the purchaser paying one fourth at the time of sale, and the balance at any time within ten years from the day of sale, the purchaser to pay eight per cent. interest per annum, semi-annually in advance on the deferred payment. And a failure to pay the interest, or the principal within sixty days after it becomes due, the purchaser shall forfeit all claim to said land, as well as that portion of principal and interest he had paid, to the agricultural college.

§ 2. Any of said lands may be leased in amounts not to exceed 160 acres, to any one man, for any term not exceeding ten years, the lessee to pay eight per cent. per annum in advance upon the price of said land, which is hereby declared to be fifty per cent. additional to the price at which each piece of said lands respectively, were appraised by the trustees of the Iowa State Agricultural College and Farm, in the year 1865, and the said lessee shall have the privilege of purchasing said land at or before the expiration of the lease, at the above described advance price. The lessee failing to pay the interest on said lease within sixty days from the time the same becomes due, shall forfeit his lease, together with the amount of the interest he has paid, and the improvements thereon.

§ 3. The money arising from the sale of said lands, shall be paid into the State treasury, which shall be invested by the State treasurer, in bonds of the State of Iowa, or United States Registered bonds, as directed by the act of congress granting said lands. And the moneys arising from the interest on the leases of said lands, shall be paid over to the trustees of the Iowa State Agricultural College and Farm, to be loaned by said board of trustees, on good and sufficient security, until needed to pay the expenses of the college.

§ 4. The trustees of the Iowa State Agricultural College and Farm, are hereby endowed with all necessary authority to appoint agents, or do any other acts to carry out the provisions of this act, as well as the provision of chapter 117 of the laws of the tenth general assembly.

AN ACT TO PROVIDE FOR THE ESTABLISHMENT OF A STATE AGRICULTURAL COLLEGE AND FARM, WITH A BOARD OF TRUSTEES, WHICH SHALL BE CONNECTED WITH THE ENTIRE AGRICULTURAL INTERESTS OF THE STATE OF IOWA.

(Passed March 22, 1858.)

SECTION 1714. (1.) *Be it enacted by the General Assembly of the State of Iowa*, That there is hereby established a State Agricultural College and Model Farm, to be connected with the entire agricultural interests of the State.

§ 1715. (2.) Said college and farm shall be under the management of a board of eleven trustees, and the governor, the president of the State agricultural society, and the president of the State agricultural college, shall be, *ex officio*, members of said board.

§ 1716. (3.) The board of trustees shall at their first meeting under this act determine by lot their several periods of service, five of whom serving for two years, and six serving for four years, and until their successors are elected and qualified. At the annual meetings in the fall before vacancies occur in this board, each county agricultural society in the State may nominate one person for trustee, from whom the general assembly shall choose trustees to fill vacancies every two years as they occur, discriminating so as to give, if possible, one trustee to each judicial district in the State. Any vacancy in the board of trustees, caused by death, resignation or removal from the State, may be filled by a vote of the majority of the members of said board. Each trustee is required to give a satisfactory bond to the State in such sum as may be required by the governor, for the faithful discharge of the duties imposed upon them.

§ 1717. (4.) The president of the college shall be president of the board of trustees. It shall be his duty to preside at all meetings of the board. He shall control, manage and direct the affairs of the college and farm herein established, subject to such rules as may be prescribed by the trustees.

§ 1718. (5.) Said board shall have power :

1. To elect a president of the State Agricultural College and Farm, and in the absence of the president, a president pro tempore, a secretary, and such other officers as may be required in the transaction of the business of the board.

2. To make all necessary rules and regulations for the government of the college and farm.

3. To purchase lands and erect buildings thereon, in accordance with the further provisions of this act.

4. To keep a full and complete record of all their proceedings, and do such other things as may be found necessary to carry out the intent and meaning of this act.

§ 1719. (6.) The trustees shall receive no compensation except for mileage in traveling to and from the meetings of the board, which shall be at the same rate and computed in the same manner as the mileage allowed to members of the general assembly; and the auditor of State is hereby authorized to audit and allow the claims for such attendance, upon not more than three meetings annually.

§ 1720. (7.) The first session of the board of trustees shall be held at the capitol of the State, on the second Monday in January. 1859.

§ 1721. (8.) A majority of the board of trustees shall be a quorum for the transaction of business.

§ 1722. (9.) Said board of trustees are hereby authorized to select and purchase suitable lands, not less than six hundred and forty acres, for the use and purposes of the college herein established.

§ 1723. (10.) Said board shall receive proposals for sale of lands for the use of said college before purchasing the same, and in the purchase, the price, location, quality and variety of soil, advantages of water, timber, stone, et cetera, shall be considered.

§ 1724. (11.) There is hereby appropriated the proceeds of the sale of five sections of land heretofore granted to the State of Iowa by congress for the erection of capitol buildings, for the use and benefit of the college herein established: *provided*, congress diverts the same for this purpose; and also the

proceeds of the sale of all other lands granted or which may be granted by congress to the State of Iowa for the purposes contemplated by this act.

§ 1725. (12.) There is hereby appropriated out of any moneys in the treasury of the State, not otherwise appropriated, the sum of ten thousand dollars for the purchase of lands as provided in section nine of this act, and the improvement of the same.

§ 1726. (13.) Upon the execution and delivery to the secretary of State, of the proper conveyance or conveyances of the land purchased as hereinbefore provided, with a certificate of the attorney general of the State, that he has examined the title to the same and finds it unincumbered and perfect and in accordance with this act, and that the location has been approved by the trustees, the auditor of State shall draw his warrant or warrants on the State treasurer, for the amount of such purchase in favor of the party or parties to whom such sum or sums may be due; said purchase or purchases to be made in the year eighteen hundred and fifty-nine previous to the first day of July of that year.

§ 1727. (14.) If any moneys remain unexpended after the purchase of said farm or lands, the trustees are hereby authorized to appropriate the same, or so much thereof as is needed, for the erection of the necessary buildings for the college on the farm, and otherwise improving the same.

§ 1728. (15.) The course of instruction in said college shall include the following branches, to wit: natural philosophy, chemistry, botany, horticulture, fruit growing, forestry, animal and vegetable anatomy, geology, mineralogy, meteorology, entomology, zoology, the veterinary art, plain mensuration, leveling, surveying, book keeping, and such mechanic arts as are directly connected with agriculture. Also, such other studies as the trustees may from time to time prescribe, not inconsistent with the purposes of this act.

§ 1729. (16.) The board of trustees shall establish such professorships as they may deem best to carry into effect the provisions of this act.

§ 1730. (17.) Tuition in the college herein established shall be forever free to pupils from this State over fourteen years of age and who have been resident of the state six months previous to their admission. Applicants for admission must be of good moral character, able to read and write the English language with ease and correctness, and also to pass a satisfactory examination in the fundamental rules of arithmetic.

§ 1731. (18.) The trustees upon consultation with the professors and teachers shall, from time to time, establish rules regulating the number of hours, to be not less than two in winter and three in summer, which shall be devoted to manual labor, and the compensation therefor; and no student shall be exempt from such labor except in case of sickness or other infirmity.

§ 1732. (19.) The board shall elect annually from the teachers or more advanced pupils, a competent book keeper, who shall keep an accurate account of the receipts and disbursements of said college and farm from all sources; he shall also keep a minute and accurate account with each field and of each crop, which shall embrace the time and manner of cultivation, the amount of seed and the product, condition of the field before planting and sowing, and after harvesting, and kind and amount of fertilizers used; also a list of animals and the value thereof, kept on the farm, and the treatment of the same; also, a daily register

of the weather ; of all of which he shall make an annual statement or synopsis of the same, to the secretary of the board of trustees.

§ 1733. (20.) Said college and farm shall be charged with the amount of crops, the proceeds of sales and the increase of animals raised on the farm.

§ 1734. (21.) The trustees shall elect at their first annual meeting in January, 1859, and every two years thereafter, a secretary from their own number, who shall hold his office two years, and until his successor is elected and qualified. He shall reside at the capital of the State and have an office in the legislative building. It shall be his duty to keep a record of the transactions of the board of trustees and college and farm, which shall be open at all times to the inspection of any citizen of this State. He shall also have the custody of all books, papers, documents and other property which may be deposited in his office, including specimens of the vegetable and animal kingdom of the State or country ; also, keep and file all reports which may be made from time to time, by county and state agricultural and horticultural societies, and all correspondence of the office from other persons and societies pertaining to the general business of husbandry ; address circulars to societies and the best practical farmers in the State and elsewhere, with the view of eliciting information upon the newest and best mode of culture of those products, vegetables, trees, etc., adapted to the soil and climate of this State ; also, on all subjects connected with field culture, horticulture, stock raising and the dairy. He shall encourage the formation of agricultural societies throughout the State, and purchase, receive and distribute such rare and valuable seeds, plants, shrubbery and trees, as may be in his power to procure from the general government and other sources, as may be adapted to our climate and soils. He shall also encourage the importation of improved breeds of horses, asses, cattle, sheep, hogs and other live stock, the invention and improvement of labor-saving implements of husbandry and diffuse information in relation to the same ; and the manufacture of woolen and cotton yarns and cloths, and domestic industry in weaving, spinning, knitting, sewing, and other household arts as are calculated to promote the general thrift, wealth and resources of the State. He shall make a report in writing to the general assembly at every session thereof, and to the governor in each year when the legislature is not in session, on the first day of February, of all the transactions of his office of a public character, including a full statement of receipts and expenditures of the college and farm and of his own office, and at such other times as the governor or legislature may require. He shall give a bond in the sum of thirty thousand dollars, with good security, for the faithful discharge of the duties of his office.

§ 1735. (22.) The seeds, plants, trees and shrubbery received by the secretary, shall be, as far as possible, distributed equally throughout the State, and placed only in the hands of those farmers and others, who will cultivate them properly and return to the secretary's office a reasonable proportion of the products thereof with a full statement of the mode of cultivation and such other information as may be necessary to ascertain their value for general cultivation in the State. All information in regard to agriculture, obtained by the secretary, of an important character, may be published by him from time to time in the newspapers of the State, *provided* it does not involve any expense to the State.

§ 1736. (23.) The secretary shall collect and file in his office the agricultural statistics of each organized county in the State.

§ 1737. (24.) That the farming interest of the State may derive immediate benefit from the duties imposed upon the secretary, the governor is hereby authorized and empowered to appoint a secretary on the passage of this act, from among the board of trustees named in this act, who shall hold his office for one year, and until his successor is elected and qualified, as provided in section twenty-one of this act.

§ 1738. (25.) The secretary shall receive as a compensation for his services, a salary of one thousand dollars per annum, to be paid quarterly from the State treasury in the same manner as is provided by law for the payment of the salaries of other state officers, and the sum of one thousand dollars is hereby annually appropriated for that purpose; and the additional sum of one thousand dollars, or so much thereof as may be esteemed necessary by the governor, is also hereby annually appropriated to meet the expenses which may be incurred in the purchase and transportation of seeds, postage, stationery, and the other contingent expenses of the office of the secretary, to be paid out of the State treasury on the requisition of the governor through the auditor of State.

§ 1739. (26.) The board of trustees shall elect a treasurer from their own number annually, at their meeting in January, who shall receive and keep all moneys arising from the sale of products of the farm or other source, and give bonds in such sum as the board of trustees may require. He shall pay over all moneys upon the warrant of the president, countersigned by the secretary. He shall render annually in the month of January, to the board of trustees, and as often as may be required by said board a full and true account of all moneys received and disbursed by him.

§ 1740. (27.) That M. W. Robinson, of Desmoine county, Timothy Day, of Van Buren county, John D. Wright, of Union county, G. W. F. Sherwin, of Woodbury county, William Duane Wilson, of Polk county, Richard Gaines, of Jefferson county, Suel Foster of Muscatine county, J. W. Henderson, of Linn county, Clermont Coffin, of Delaware County, E. H. Williams, of Clayton county, E. G. Day, of Story county, are hereby appointed and constituted the first board of trustees of the agricultural college and farm, who shall hold their office as may be determined under the provisions of the third section of this act.

AN ACT MAKING AN APPROPRIATION FOR AND DIRECTING THE ERECTION OF AN
AGRICULTURAL COLLEGE.

(Approved March 22, 1864.)

[This act, (chap. 72, laws of 1864,) appropriates \$26,000 to aid in the erection of a permanent building on the college farm as definitely fixed by the trustees of the agricultural college and farm, after plans and estimates to be approved by the governor, under the immediate supervision of the executive committee of the trustees.]

AN ACT MAKING APPROPRIATION TO COMPLETE THE AGRICULTURAL COLLEGE
BUILDING.

(Approved April 2, 1866.)

[This act (chap. 61, laws of 1864,) appropriates the sum of \$91,000 for the purpose of completing the agricultural college building, and for the payment of the indebtedness against the same—to be expended under the direction and supervision of a building committee of not less than three persons, to be appointed by the trustees of said college, and of a superintendent, who shall not be a member of said board—each of said building committee and the superintendent, to give bond in the penal sum of ten thousand dollars, for the faithful discharge of their respective duties.]

AN ACT TO PROVIDE FOR THE LOAN OF PERMANENT SCHOOL FUND.

(Approved March 29, 1864.)

[This act, (chap. 117, laws of 1864,) fixes the rate of interest on school fund loans at 8 per cent., the price of school lands at \$1.25 per acre—makes each county responsible for the collection of annual interest on loans within the same, as well as for misapplication of school moneys, and withholds the distribution share of the State appropriation as a penalty, and imposes a special tax to replace the sum thus misapplied.]

ACT TO PROVIDE FOR APPOINTMENT OF SUPERINTENDENT OF AGRICULTURAL
COLLEGE.

(Approved April 5, 1864.)

[This act, (chap. 121, laws of 1864,) authorizes board of trustees of State Agricultural College to appoint a superintendent of the State Agricultural College Farm, who shall also be secretary of the board, who shall have charge of the farm, and other property, at a salary of \$1,000.]

KANSAS.

AN ACT FOR THE GOVERNMENT OF THE KANSAS STATE AGRICULTURAL COLLEGE FOR THE BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS.

(Approved March 3, 1863.)

SECTION 1. The College for the benefit of Agriculture and the Mechanic Arts, which was located by an act of the Legislature of the State of Kansas, entitled, "An Act to locate and establish a College for the benefit of Agriculture and the Mechanic Arts," approved February 16th, 1863, shall be known as the Kansas State Agricultural College.

§ 2. The government of such college is vested in a board of regents, to consist of the Governor, Secretary of State, Superintendent of Public Instruction and the president of the college, *ex-officio*, and nine others, who shall be appointed by the Governor and confirmed by the Senate; *Provided*, That not more than three of those selected shall be members of the same religious denomination. Three of those appointed shall hold their office until the second Monday in January, A. D. 1865, and three until 1867, and three until 1869; and their several successors shall hold their office for the term of six years.

§ 3. The board of regents shall constitute the body corporate, with the right to sue and be sued, to use a common seal, and alter the same at pleasure.

§ 4. The regents shall have the power to enact ordinances, by-laws and regulations for the government of said college; to elect a president to fix, increase and diminish the regular number of professors and teachers, and to appoint the same, and to determine the amount of their salaries. They shall have the power to remove the president and any professor or teacher, whenever the interest of the college shall require.

§ 5. The college shall consist of four departments: 1st, The department of Agriculture. 2d, Mechanic Arts. 3d, Military Science and Tactics. 4th, Literature and Science.

§ 6. The immediate government of the several departments shall be intrusted to the president and the respective professors and teachers, but the regents shall have the power to regulate the course of instruction, and to prescribe, under the advice of the faculty, the books and authorities to be used in the several departments; also to confer such degrees and grant such diplomas as are conferred by institutions of the highest grade.

§ 7. The college shall be opened to all persons, under such regulations as may be prescribed by the regents: *Provided*, That no student shall be refused admittance to this college, simply because he has been expelled from some other college.

§ 8. The board of regents shall make an exhibit of the affairs of the college, in each year, to the Superintendent of Public Instruction, setting forth the condition of the college, the amount of receipts and expenditures, the number of professors and teachers and other officers, and the compensation of each; the

number of students in the several departments and in the different classes, the books of instruction used, an estimate of the expenses of the ensuing year, a full transcript of the journal of the proceedings for the year, together with such other information and suggestions as they may deem important, or the Superintendent of Public Instruction may require to embrace in his report, which shall be reported by the Superintendent of Public Instruction to the Legislature in his annual report.

§ 9. The board of regents shall report annually the progress of said college, recording any improvements and experiments made, with their cost and results, and such other matters, including State and industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail, free, to all other colleges which may be endowed under the provisions of the act of Congress, entitled "An Act donating public lands to the several States which may provide colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2d, 1862, and also one copy to the Secretary of the Interior.

§ 10. A board of visitors, to consist of three persons, shall be appointed by the Governor, to hold their offices severally for one, two and three years, but their successors shall hold their office for three years. It shall be their duty to make a personal examination into the state and condition of the college, in all its departments and branches, once at least in each year, and report the result to the Superintendent of Public Instruction, suggesting such improvements as they may deem important, which said report shall be embodied in the report of the Superintendent.

§ 11. The regents shall have power to appoint a secretary, librarian treasurer, and such other officers as the interests of the college may require, who, shall hold their offices at the pleasure of the board, and shall receive such compensation as the board shall prescribe.

§ 12. The board of regents shall have the general supervision of the college, and the direction and control of all expenditures.

§ 13. It shall be the duty of the board of regents, at their earliest convenience, to secure a collection of specimens in mineralogy, geology, zoology, botany, and other specimens pertaining to natural history; and whenever a geological survey of the State may be made, a complete set of specimens collected shall be deposited in the cabinet of the college. The said board shall make provision for increasing and preserving the library and apparatus belonging to said college, and the apparatus and library that may be transferred to the State by the Beaumont Central College Association.

§ 14. The first meeting of the board of regents shall be called by the Superintendent of Public Instruction as soon as may be after the fulfillment by the Beaumont Central College Association, of an act, entitled "An Act to locate and establish a college for the benefit of Agriculture and the Mechanic Arts," approved February 16, 1863, but all succeeding meetings shall be called in such manner as the said board may prescribe, and shall be held at the college building, and at least once annually.

§ 15. A majority of the board of regents shall constitute a quorum to do business.

§ 16. The ninety thousand acres of land granted to the State of Kansas by Congress, to endow a college for the benefit of Agriculture and the Mechanic

Arts, shall be used solely for the endowment of said Kansas State Agricultural College of the State of Kansas, and for no other purpose whatever; and the interest of the fund arising from the sale of said lands shall be used exclusively for the salaries of the president, professors and teachers of this college; but the principal on the moneys arising from the sale of said lands shall be invested according to law, and be a fund to remain forever undiminished.

KENTUCKY.

AN ACT TO ESTABLISH AN AGRICULTURAL COLLEGE IN KENTUCKY.

(Approved February 22, 1865.)

WHEREAS, The curators of the Kentucky University propose to locate their university in Fayette county, in or near the city of Lexington, and said curators and the trustees of Transylvania University propose to consolidate the two universities, and all the funds and property of each, into one corporation, under the name of the Kentucky University; and it appearing that said curators have a cash endowment of two hundred thousand dollars, yielding an annual income of about twelve thousand dollars, and that there are cash funds of Transylvania University to be united with them, of fifty-nine thousand dollars, besides the grounds, buildings, library, apparatus, and other property of Transylvania University, of the value and cost exceeding one hundred thousand dollars; and said institution, when so consolidated, proposes to raise an additional hundred thousand dollars to purchase a farm and erect all the necessary buildings and improvements to carry on the operations of an agricultural and mechanical college, and connect therewith a model or experimental farm, with industrial pursuits, to enable such pupils as choose to do so to sustain themselves, in whole or in part, while acquiring their education; and further propose, that the State of Kentucky shall establish the Agricultural and Mechanical College of Kentucky as one of the colleges of Kentucky University, thus consolidated, and endow the same with the income of the fund which shall arise from the sale of land scrip granted to Kentucky by the Congress of the United States, for the purpose of establishing said college; and upon the State of Kentucky, so establishing and endowing said college, the curators of Kentucky University will furnish, in reasonable time, all the necessary lands, buildings, apparatus, etc., for such college, and proceed at once to organize said college, and put the same in operation in accordance with this act and the act of Congress, and subject to the visitorial control of the State of Kentucky in its organization and general management, and with the sole control, by the State, of its said fund, in keeping the principal of the same perpetually secure. Now, therefore,
Be it enacted, etc.,

SECTION 1. That there shall be, and is hereby, established, the Agricultural and Mechanical College of Kentucky, located in the county of Fayette, in or near the city of Lexington, which shall be a college of Kentucky University.

§ 2. That the leading object in said college shall be to teach such branches of learning as are related to Agriculture and the Mechanical Arts, including military tactics, without excluding other scientific and classical studies, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

§ 3. That to effect the said leading object of said college, there shall be established therein the competent number of professorships for teaching the

sciences related to agriculture and the mechanical arts, including military tactics, which professorships shall be filled by able and competent professors, aided by such assistants, tutors, and other instructors as shall, from time to time, be necessary; and, as a part of said college, there shall be conducted an experimental or model farm, with the usual accessories thereto, and of size proportioned to the number of students; and on said farm, and in the mechanical arts, there shall be provided to the students opportunities for industrial pursuits, at stated times, whereby agriculture and the mechanical arts may be practically learned, and the student enabled to earn his support while being educated, in whole or part, by his labor and industry.

§ 4. That in the appointment of professors, instructors, and other officers and assistants of said college, and in prescribing the studies and exercises thereof, and in every part of the management and government thereof, no partiality or preference shall be shown to one sect or religious denomination over another, nor shall anything sectarian be taught therein; and persons engaged in the conducting, governing, managing, or controlling said college and its studies and exercises, in all its parts, are hereby constituted officers and agents of the whole commonwealth, in faithfully and impartially carrying out the provisions of this act for the common good, irrespective of sects or parties, political or religious.

§ 5. That the curators of Kentucky University shall organize said Agricultural and Mechanical College, by establishing the proper professorships and officers, with the salaries and compensation thereof, and filling the same, from time to time, by their appointments; provide the necessary grounds, buildings and improvements, and conduct, carry on, and manage the said college as provided in this act; and said curators, to aid them in conducting said college and defraying the expenses thereof, shall receive all the income of the fund which shall arise from the sale of the land scrip granted to the State of Kentucky by the act of Congress, entitled "An Act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanical arts," approved July 2, 1862, and which income shall be appropriated by said curators to the payment of the salaries of the professors and other officers and employees of said college, and other expenses of conducting the same, and the farm and industrial pursuits incidental thereto, and to no other purpose whatsoever; *Provided*, that a majority of the professors of said college shall not at any one time belong to the same ecclesiastical denomination.

§ 6. That the governor, with the advice and consent of the senate, shall appoint six visitors of said college, who shall constitute the board of visitors thereof, and appoint one of their number chairman of the board; and said board shall have, at all times, full power to inspect and examine into all the details of the managing and conducting of said college, and to see that all the provisions of this act are carried into complete effect, according to their true meaning and intent; and it shall be the duty of said board to report to the curators of Kentucky University all defects or departures from this act, in conducting or managing said college, and suggest the proper mode of correcting them; and said curators shall proceed to correct them; and it shall be further the duty of said board of visitors to report to every biennial meeting of the general assembly the condition and management of said college; and if, at any time, it shall appear to the general assembly that the curators have persisted in not carrying

the provisions of this act into effect, according to their true object and spirit, and in disregarding the requirements of the board of visitors, it shall be lawful to deprive, either temporarily or permanently, said college of the endowment of the income of the fund aforesaid. The visitors shall hold their office for two years, and until their successors are appointed. Vacancies in said board by death, resignation, or expiration of term of office, during the recess of the general assembly, shall be filled by the governor until the end of the next succeeding session.

§ 7. That so soon as the said college is organized for the reception and proper instruction of pupils, the curators shall make known the same to the governor and president of the board of education; and, thereupon, each representative district of the State shall be entitled to send to said college, free of charge for tuition, one properly prepared pupil for each member said district is entitled to elect to the general assembly; and when the whole of the land scrip shall be sold or invested, each district shall be entitled to send three such properly prepared pupils to said college for each member the district is authorized to elect. Said pupils shall have the right of receiving, free of charge for tuition, the benefit of any instruction given in any of the colleges or classes of the university, except those of law and medicine. The pupils shall be selected by the majority of the justices of the peace in said districts.

§ 8. The provisions of this act shall not go into effect until Transylvania University and Kentucky University shall be consolidated into one corporation, under the name of the Kentucky University, and the funds, property, etc., of Transylvania University shall be vested in the curators of Kentucky University, as successors of the trustees of Transylvania University; nor until the curators of Kentucky University shall, by resolution, assent to all the provisions of this act, and accept this act as part of its charter. A copy of said resolution, and of the action of the trustees of Transylvania University, and the curators of the Kentucky University, in accepting said consolidation, shall be laid before the governor; whereupon, he shall, by writing, signed by him and under the seal of the State, authorize the curators of the Kentucky University to organize the Agricultural and Mechanical College of Kentucky, in pursuance of this act.

§ 9. The general assembly reserves the right to modify and repeal, at pleasure, so much of this act as refers to the establishment of the Agricultural and Mechanical College.

AN ACT IN RELATION TO THE AGRICULTURAL COLLEGE.

(Approved February 10, 1866.)

SECTION 1. That the auditor of public accounts be, and he is hereby, authorized to draw his warrant upon the treasury in favor of the treasurer of the board of curators of the Kentucky University, for the sum of twenty thousand dollars, which sum is hereby appropriated out of any moneys in the treasury not otherwise appropriated, to aid in putting the Agricultural and Mechanical College of Kentucky into immediate operation. Upon the payment of the foregoing sum, the State shall be entitled to send to said college, free of charge, three pupils for each representative district: *Provided, however,* the State

reserves the right, hereafter, to reimburse itself for the amount herein appropriated out of the interest arising from the sale of the land scrip donated by Congress: *And provided further,* the money herein appropriated shall not be drawn from the treasury until the curators of Kentucky University shall certify to the governor that said agricultural college is ready to go into immediate operation, in accordance with the provisions of the act establishing the same.

§ 2. Before the auditor shall draw his warrant upon the treasurer, in accordance with this act, the curators of said university shall accept the provisions of this act, and shall transmit to the governor a certified copy of the order of their board, showing said acceptance.

§ 3. This act shall take effect from and after its passage.

MAINE.

AN ACT TO ESTABLISH THE STATE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

(Approved February 25, 1865.)

SECTION 1. Samuel F. Perley, N. T. Hill, Bradford Cummings, Thomas S. Lang, Dennis Moore, William D. Dana, S. L. Goodale, Robert Martin, Alfred S. Perkins, Joseph Farwell, Seward Dill, Joseph Day, Ebenezer Knowlton, Hannibal Hamlin, Charles A. Everett and William West Virgin, are hereby constituted a body politic and corporate, by the name of the Trustees of the State College of Agriculture and Mechanic Arts, having succession as hereinafter provided, with power to establish and maintain, subject to the provisions and limitations of this act, such a college as is authorized and provided for by the act of Congress, passed July 2, 1862, entitled "An Act donating lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts." They shall be entitled to receive from the State the income which shall accrue from the funds granted to the State by the aforesaid act, and shall apply the same, together with all such income as they shall receive from any other sources, to the maintenance of the college, in conformity with the act of Congress.

§ 2. The trustees shall annually elect one of their number to be president of the board. They shall appoint a clerk and treasurer, both of whom shall be sworn, and shall hold their offices at the pleasure of the trustees. The clerk shall record all proceedings of the board, and copies of their records, certified by him, shall be evidence in all cases in which the originals might be used. The treasurer shall be required to give suitable bond, and to renew the same whenever the trustees shall require.

§ 3. The governor and council shall at all times have the power, by themselves, or such committee as they shall appoint, to examine into the affairs of the college and the doings of the trustees, and to inspect all their records and accounts, and the buildings and premises occupied by the college. Whenever the governor and council shall have reason to believe that the trustees are exercising, or attempting to exercise, any unlawful powers, or unlawfully omitting to perform any legal duty, they may direct the attorney general to institute process against the trustees in their corporate capacity, in the nature of a complaint in equity, before the supreme judicial court, in the county in which the college may be established, and the court, after notice, shall hear and determine the same, by summary proceeding in term time, or by any judge in vacation, and may make suitable decree, restraining the trustees from performing or continuing the unlawful acts complained of, for requiring them to perform whatever is unlawfully omitted, and may enforce such decrees. In like manner, a com-

plaint may be instituted against any individual trustee, and be heard in the county where he resides, alleging against him any cause deemed by the governor and council sufficient to disqualify him for the trust; and if, in the judgment of the court, such allegation shall be sustained, a decree shall be made removing such trustee from office, and his place shall be thereby vacated.

§ 4. No person shall be a trustee who is not an inhabitant of this State, nor any one who has reached the age of seventy years. The clerk of the trustees shall give notice of all vacancies to the governor and council; vacancies occurring in any of the foregoing modes, or by the resignation or decease of any trustee, shall be filled in the following manner. The first vacancy that shall occur shall be filled by the legislature at the next session thereafter, by joint ballot of the two branches; the second vacancy shall be filled by the trustees at their next meeting; and all succeeding vacancies shall be filled in like manner, alternately by the legislature and the trustees.

§ 5. The trustees, in their corporate capacity, may take and hold, in addition to the income which they shall receive through the State from the endowment made by Congress, such other real and personal property as may be granted or devised to them for the purpose of promoting the objects of this act. But they shall not be entitled to receive any benefactions made to them upon conditions inconsistent with the act of Congress aforesaid, or for purposes different from what is therein prescribed.

§ 6. The governor and council shall take measures, as soon as may be advantageously done after passage of this act, to sell the land scrip received by this State under the act of Congress, and to invest the same as required by the fourth section of said act. The securities shall be kept by the State treasurer, and he shall report annually to the legislature the amount and condition of the investments, and of the income of the same. He shall from time to time, as the income shall accrue, pay over the same to the treasurer of the college.

§ 7. It shall be the duty of the trustees, as soon as may be after their organization, to procure a tract of land suitable as a site for the establishment of the college. If no other provision shall be made therefor, there shall be placed at the disposal of the trustees for this purpose, such proportion as the governor and council may deem suitable, of that part of the fund which is authorized by the fifth section of the act of Congress to be expended for the purchase of lands for sites or experimental farms.

§ 8. The trustees shall appoint such directors, professors, lecturers and teachers in the college, and employ such other persons therein, from time to time, as the means at their command may permit for the accomplishment of the objects enumerated and described in the fourth section of the act of Congress. Every officer and every person employed shall hold his office or employment at the pleasure of the trustees. They shall, as soon as may be, arrange and make known the several courses of instruction which they will undertake at the outset of the college, and shall enlarge and improve the same whenever practicable, subject to the limitations prescribed by Congress. They shall also establish the qualifications for admission, and modify the same as circumstances may require. But no student shall be admitted into or continued in the college, nor shall any person be employed in any office or service, who is not of good moral character and pure life.

§ 9. In addition to the instruction which is to be given by classes, textbooks, lectures and apparatus, in such branches of learning as are related to agriculture and the mechanic arts, the trustees shall provide, as fully as may be, for practical experiments and demonstrations of scientific principles and rules. They shall encourage, and for due proportions of time, at different seasons of the year, and with reference to other exercises, require all the students to engage in actual labor upon the lands and in the workshops with which the college may be furnished, and shall provide suitable oversight and direction in such labor, so that they may become habituated to skillful and productive industry.

§ 10. Military tactics shall be taught during some suitable part of each year to all students; and they shall be required to form and maintain such habits of obedience and subordination as may be useful to them if called into military service. The adjutant-general shall be authorized to furnish to the college for military drill, such arms and equipments, not needed by the State for other service, as may suffice for the number of students. He shall also furnish to the college a United States flag.

§ 11. Such other studies are to be taught, within the limitations of the act of Congress, as the facilities of the college and the period of instruction will permit.

§ 12. Students who satisfactorily complete any one or more of the prescribed courses of study, may receive public testimonials thereof, under the direction of the trustees, stating their proficiency.

§ 13. No charge shall be made for tuition to any student who is an inhabitant of this State; and the trustees, and all persons employed by them, shall constantly endeavor, by the adoption of judicious and effective arrangements in all the labor departments of the college, to reduce the cost of subsistence to the students, and to render the institution, as far as possible, self-sustaining.

§ 14. It shall be the duty of the trustees, directors and teachers of the college to impress on the minds of the students the principles of morality and justice, and a sacred regard to truth; love to their country; humanity and universal benevolence; sobriety, industry and frugality; chastity, moderation and temperance, and all other virtues which are the ornaments of human society; and among other means to promote these ends, and to secure the best personal improvement of the students, the trustees shall provide, as fully as may be practicable, that the internal organization of the college shall be on the plan of one or more well regulated households and families, so that the students may be brought into relations of domestic intimacy and confidence with their teachers.

§ 15. If at any time the number of students applying for admission shall be greater than the means of the trustees will enable them to receive, they shall make regulations for the number to be admitted, having reference to the proportions of population in the several senatorial districts in the State, and equalize the admissions according to such proportions, as nearly as may be.

§ 16. The trustees shall hold a regular session at the college at least once in each year, and may provide for periodical visitations by committee. No trustee shall receive any compensation, except actual travelling expenses, to be paid from the treasury of the college.

§ 17. The treasurer of the college shall make, as often as once in six months, a detailed report of all receipts and expenditures, and the trustees shall cause the same to be verified by full inspection and settlement of all his accounts, and shall transmit a copy of the same, as verified by them, to the governor and council. The trustees shall also cause to be made annually such report as is required by the fifth section of the act of Congress, and communicate the same as therein provided.

§ 18. The legislature shall have the right to grant any further powers, to alter, limit or restrain any of the powers vested in the trustees of the college established by this act, as shall be judged necessary to promote the best interests thereof. And this act shall take effect upon its approval by the governor.

MARYLAND.

AN ACT APPROPRIATING THE INTEREST TO BE RECEIVED FROM SALE OF SCRIP DONATED TO STATE OF MARYLAND.

(Passed March 21, 1856.)

SECTION 1. Be it enacted by the General Assembly of Maryland: That after the comptroller shall have sold the said scrip and invested the proceeds thereof as provided by the act of the general assembly, passed at January, 1864, the annual interest or income of said investment shall be regularly paid by him, without diminution, to the Maryland Agricultural College; and the leading object of said college shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life; and the money so to be received by the said college shall be applied to the objects enumerated in the said act of Congress, and to no other purpose whatsoever; and the said college shall in all respects comply with the several requirements of said act, as to making and recording experiments, and reporting the same as therein prescribed: *Provided*, that nothing herein contained shall be construed to prohibit or preclude the general assembly, at any time hereafter, from making any other disposition of said funds, not inconsistent with the act of Congress making said donation.

§ 2. From and after the passage of this act, the State Board of Education shall be *ex-officio* members of the board of trustees of said college.

NOTE.

The Maryland Agricultural College was established in 1857, in Prince George's county, (post office, *Agricultural College*,) by subscriptions of citizens, mostly engaged in agricultural pursuits. It has received liberal aid from the State, not only towards its annual expense, but in large sums to relieve it from debt. Its past history and future prospects will be given in Part II.

MASSACHUSETTS.

AN ACT TO INCORPORATE THE TRUSTEES OF THE MASSACHUSETTS AGRICULTURAL COLLEGE.

(Approved April 29, 1863.)

SECTION 1. Marshal P. Wilder, of Dorchester; Charles G. Davis, of Plymouth; Nathan Durfee, of Fall River; John Brooks, of Princeton; Henry Colt, of Pittsfield; William S. Southworth, of Lowell; Charles C. Sewall, of Medfield; Paoli Lathrop, of South Hadley; Phinehas Stedman, of Chicopee; Allen W. Dodge, of Hamilton; George Marston, of Barnstable; William B. Washburn, of Greenfield; Henry L. Whiting, of Tisbury; John B. King of Nantucket, their associates and successors, are hereby constituted a body corporate, by the name of the Trustees of the Massachusetts Agricultural College, the leading object of which shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life—to be located as hereinafter provided; and they and their successors, and such as shall be duly elected members of said corporation, shall be and remain a body corporate by that name forever. And for the orderly conducting of the business of said corporation the said trustees shall have power and authority, from time to time, as occasion may require, to elect a president, vice-president, secretary and treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices; and also to remove any trustee from the same corporation, when, in their judgment, he shall be rendered incapable, by age or otherwise, of discharging the duties of his office, or shall neglect or refuse to perform the same; and, whenever vacancies shall occur in the board of trustees, the legislature shall fill the same: *provided, nevertheless*, that the number of members shall never be greater than fourteen, exclusive of the Governor of the Commonwealth, the secretary of the board of education, the secretary of the board of agriculture, and the president of the faculty, each of whom shall be, *ex officio*, a member of said corporation.

§ 2. The said corporation shall have full power and authority to determine at what times and places their meetings shall be holden, and the manner of notifying the trustees to convene at such meetings; and also, from time to time, to elect a president of said college, and such professors, tutors, instructors, and other officers of said college, as they shall judge most for the interest thereof, and to determine the duties, salaries, emoluments, responsibilities and tenures of their several offices. And the said corporation are further empowered to purchase or erect, and keep in repair, such houses and other buildings as they shall judge necessary for the said college; and also to make and ordain, as occasion may require, reasonable rules, orders, and by-laws, not

repugnant to the constitution and laws of this Commonwealth, with reasonable penalties, for the good government of the said college, and for the regulation of their own body, and also to determine and regulate the course of instruction in said college, and to confer such appropriate degrees as they may determine and prescribe: *provided, nevertheless*, that no corporate business shall be transacted at any meeting unless one-half, at least, of the trustees are present.

§ 3. The said corporation may have a common seal, which they may alter or renew at their pleasure, and all deeds sealed with the seal of said corporation, and signed by their order, shall, when made in their corporate name, be considered in law as the deeds of said corporation; and said corporation may sue and be sued in all actions, real, personal or mixed, and may prosecute the same to final judgment and execution, by the name of the Trustees of the Massachusetts Agricultural College; and said corporation shall be capable of taking and holding in fee simple, or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal: *provided*, that the clear annual income of the same shall not exceed thirty thousand dollars.

§ 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the uses of said college, in such manner as shall most effectually promote the objects declared in the first section of this act, and as may be recommended, from time to time, by the said corporation, they conforming to the will of any donor or donors, in the application of any estate which may be given, devised or bequeathed, for any particular object connected with the college.

§ 5. The legislature of this Commonwealth may grant any further powers to, or alter, limit, annul or restrain, any of the powers vested by this act in the said corporation, as shall be found necessary to promote the best interests of the said college; and more especially may appoint and establish overseers or visitors of the said college, with all the necessary powers for the better aid, preservation and government thereof. The said corporation shall make an annual report of its condition, financial and otherwise, to the legislature, at the commencement of its session.

§ 6. The board of trustees shall determine the location of said college, in some suitable place within the limits of this Commonwealth, and shall purchase, or obtain, by gift, grant, or otherwise, in connection therewith, a tract of land containing at least one hundred acres, to be used as an experimental farm, or otherwise, so as best to promote the objects of the institution; and in establishing the by-laws and regulations of said college, they shall make such provision for the manual labor of the students on said farm as they may deem just and reasonable. The location, plan of organization, government and course of study prescribed for the college, shall be subject to the approval of the legislature.

§ 7. One tenth part of all the moneys which may be received by the state treasurer, from the sale of land scrip, by virtue of the provisions of the one hundred and thirtieth chapter of the acts of the thirty-seventh congress, at the second section thereof, approved July second, eighteen hundred and sixty-two, and of the laws of this Commonwealth, shall be paid to said college, and appropriated towards the purchase of said site or farm: *provided, nevertheless*, that the said college shall first secure by valid subscriptions or otherwise, the further

sum of seventy-five thousand dollars, for the purpose of erecting suitable buildings thereon; and upon satisfactory evidence that this proviso has been complied with, the governor is authorized, from time to time, to draw his warrants therefor.

§ 8. When the said college shall have been duly organized, located, and established, as and for the purposes specified in this act, there shall be appropriated and paid to its treasurer each year, on the warrant of the governor, two-thirds of the annual interest or income, which may be received from the fund created under and by virtue of the act of congress named in the seventh section of this act, and the laws of this Commonwealth, accepting the provisions thereof, and relating to the same.

§ 9. In the event of a dissolution of said corporation, by its voluntary act at any time, the real and personal property belonging to the corporation shall revert and belong to the Commonwealth, to be held by the same and be disposed of as it may see fit, in the advancement of education, in agriculture, and in the mechanic arts. The legislature shall have authority at any time to withhold the portion of the interest or income from said fund provided in said act, whenever the corporation shall cease or fail to maintain a college within the provisions and spirit of this act and the before-mentioned act of congress, or for any cause which they deem sufficient.

AN ACT CONCERNING THE MASSACHUSETTS AGRICULTURAL COLLEGE.

(Approved May 11, 1864.)

SECTION 1. The corporate name of the Trustees of the Massachusetts Agricultural College shall be, *The Massachusetts Agricultural College*.

§ 2. The location, plan of organization, government and course of study, prescribed for said college, shall be subject to the approval of the governor and council.

§ 3. It shall be the duty of the commission authorized by section three of chapter 166, of acts of 1863, to sell from time to time the land scrip which may come into possession of the Commonwealth by virtue of said act, on such terms as the governor and council shall determine.

§ 4. The governor, with the advice and consent of the council, is hereby authorized and instructed to transfer to the Massachusetts Agricultural College one-tenth of the entire amount of land scrip received by the Commonwealth from the United States by virtue of the act of congress of July 2, 1862; and the proceeds from the sale of said land scrip shall be expended only for the purchase of land for the use of said college. If any portion of said proceeds shall remain unexpended after the purchase of a suitable site or farm, for said college, then said college shall pay the same over to the treasurer of the Commonwealth, who shall invest and hold the same as a part of the fund for the promotion of education and the mechanic arts, established by section 4, chap. 166, 1863.

§ 5. To defray the necessary expenses of establishing and maintaining the Massachusetts Agricultural College, there may be advanced from the treasury, to be refunded, as provided in section sixth of this act, the sum of ten thousand dollars, and the governor is hereby authorized to draw his warrant therefor; *provided*, that the money shall be paid to the treasurer of said college in

quarterly instalments, on the first days of June, September, December and March next.

§ 6. All moneys received by the treasurer of the Commonwealth, as the annual interest or income of the fund established [by the act of 1863] and specially set apart for the use of the Massachusetts Agricultural College, shall first be applied to the repayment of the appropriation made in the preceding section, and the balance shall be paid to the treasurer of the college.

§ 7. So much of section 3 and section 6 of chapter 166 of act of 1863, inconsistent herewith, are hereby repealed.

AN ACT TO AUTHORIZE THE TOWN OF AMHERST TO RAISE \$50,000 FOR THE
AGRICULTURAL COLLEGE.

(Approved May 5, 1865.)

SECTION 1. The town of Amherst is hereby authorized to raise by issuing its bonds, or by loan or tax, the sum of \$50,000, to be appropriated and paid to the Massachusetts Agricultural College, out of the treasury of the town, and applied in the erection of said college in said town: *provided*, that at a legal town meeting, called for that purpose, two-thirds of the voters present and voting thereon, shall vote to raise said amount for said object.

§ 2. This act shall take effect upon its passage.

AN ACT CONCERNING THE MASSACHUSETTS AGRICULTURAL COLLEGE.

(Approved March 15, 1865.)

The sum of ten thousand dollars is hereby granted to the Massachusetts Agricultural College, to aid its establishment.

AN ACT CONCERNING THE BOARD OF AGRICULTURE AND THE STATE AGRICULTURAL CABINET AND LIBRARY.

(Approved May 26, 1866)

SECTION 1. The Board of Agriculture shall constitute a board of overseers of the Massachusetts Agricultural College, with powers and duties to be defined and fixed by the governor and council. But said board of overseers shall have no powers granted to control the action of the trustees of said college, or to negative their powers and duties, as defined by chapter 220 of the act of 1863.

§ 2. The Board of Agriculture is hereby authorized to locate the State Agricultural Cabinet and Library, and to hold its meetings in said college.

§ 3. The president of the Agricultural College is hereby constituted a member, *ex officio*, of the Board of Agriculture.

AN ACT TO INCORPORATE THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
AND TO GRANT AID TO SAID INSTITUTE, &C.

(Approved April 10th, 1861.)

SECTION 1. William B. Rogers, James M. Beebe, E. S. Tobey, S. H. Gookin, E. B. Bigelow, M. D. Ross, J. D. Philbrick, F. H. Storer, J. D. Runkle, C. H. Dalton, J. B. Francis, I. C. Hoadley, M. P. Wilder, C. L. Flint, Thomas Rice, John Chase, J. P. Robinson, F. W. Lincoln, Jr., Thomas Aspinwall, J. A. Dupee, E. C. Cabot, their associates and successors, are hereby made a body corporate by the name of the Massachusetts Institute of Technology, for the purpose of instituting and maintaining a society of arts, a museum of arts, and a school of industrial science, and aiding generally, by suitable means, the advancement, development and practical application of science in connection with arts, agriculture, manufactures and commerce; with all the powers and privileges, and subject to all the duties, restrictions and liabilities, set forth in the sixty-eighth chapter of the General Statutes.

§ 2. Said corporation for the said purposes aforesaid, shall have authority to hold real and personal estate to an amount not exceeding \$200,000.

§ 3. One certain square of state land on the Back Bay, namely, the second square westwardly from the public garden, between Newbury and Boylston Streets, according to the plan reported by the commissioners on the Back Bay, February 21st, 1857, shall be reserved from sale forever, and kept as an open space, or for the use of such educational institutions of science and art as are hereinafter provided for.

§ 4. If at any time within one year after the passage of this act, the said Institute of Technology shall furnish satisfactory evidence to the governor and council that it is duly organized under the aforesaid charter, and has funds subscribed, or otherwise guaranteed, for the prosecution of its objects, to an amount at least of one hundred thousand dollars, it shall be entitled to a perpetual right to hold, occupy and control, for the purposes herein before mentioned, the westerly portion of said second square, to the extent of two-thirds parts thereof, free of rent or charge by the commonwealth, subject, nevertheless, to the following stipulations, namely: persons from all parts of the commonwealth shall be alike eligible as members of said institute, or as pupils for its instruction; and its museum or conservatory of arts, at all reasonable times, and under reasonable regulations, shall be open to the public; and within two years from the time when said land is placed at its disposal for occupation, filled and graded, shall erect and complete a building suitable to its said purposes, appropriately inclose, adorn and cultivate the open ground around said building, and shall thereafter keep said grounds and building in a sightly condition.

§ 5. The Boston Society of Natural History shall be entitled to hold, occupy and control, for the objects and purposes for which said society was incorporated, and which are more fully set forth in its constitution and by-laws, the easterly portion of said second square, to the extent of one-third part thereof: *provided*, that the said society shall, within two years from the time when said portion of land is placed at its disposal for occupation, filled and graded, erect a building suitable to said objects and purposes, and appropriately inclose, plant and adorn the open ground around said building, and shall thereafter keep said grounds and building in a neat and ornamental condition.

§ 6. The rights and privileges given in the last two sections, are granted subject to these further conditions following, namely: All buildings whatsoever, which may be erected by either of the herein named institutions upon any portion of said second square, shall be designed and completed, the grounds surrounding said buildings enclosed, laid out and ornamented, and the said buildings and grounds kept and maintained in a manner satisfactory to the governor and council; and in case either of the said institutions shall, after due notice given, neglect to comply with the requirements of this section, or fail to use its portion of said square, or at any time appropriate said portion, or any part thereof, to any purpose or use foreign to its legitimate objects, then the right of said delinquent institution to the use, occupation or control of its portion of said square shall cease, and the commonwealth, by its proper officers and agents, shall have the right forthwith to enter and take possession of the portion of land so forfeited.

§ 7. The above named societies shall not cover with their buildings more than one-third of the area granted to them respectively.

[Sections 8, 9 and 10 repealed.]

AN ACT IN ADDITION TO THE ACT OF APRIL 10, 1861.

(Approved April 27, 1863.)

SECTION 1. When the Massachusetts Institute of Technology shall have been duly organized, located and established, in conformity with the provisions of chapter one hundred and eighty-three of the acts of the year eighteen hundred and sixty-one, and chapter one hundred and forty-two of the acts of the year eighteen hundred and sixty-two, and as is hereinafter provided, there shall be appropriated and paid to its treasurer, each year, on the warrant of the governor, for its endowment, support and maintenance, one-third part of the annual interest or income which may be received from the fund created under and by virtue of the one hundred and thirtieth chapter of the acts of the thirty-seventh congress, at the second session thereof, approved July second, in the year eighteen hundred and sixty-two, and the laws of this Commonwealth, accepting the provisions thereof and relating to the same.

§ 2. Said Institute of Technology, in addition to the objects set forth in its acts of incorporation,—to wit, instituting and maintaining a society of arts, a museum of arts, and a school for industrial science, and aiding the advancement, development and practical application of science in connection with arts, agriculture, manufactures and commerce,—shall provide for instruction in military tactics; and in consideration of this grant, the governor, the chief justice of the supreme judicial court, and the secretary of the board of education, shall be each a member, *ex officio*, of the government of the Institute.

§ 3. Should the said corporation, at any time, cease or fail to maintain an Institute, as and for the purposes provided in its act of incorporation, and in the foregoing section, the aid granted to it by the first section of this act shall be withheld, and not paid to it. The Institute shall furnish to the governor and council a copy of the annual reports of its operations.

§ 4. This act shall be void, unless the said Institute of Technology shall accept the same, and give due notice thereof, to the secretary of the Commonwealth, on or before the first day of July next.

MICHIGAN.

AN ACT TO PROVIDE FOR THE SELECTION, CARE AND DISPOSITION OF THE LANDS DONATED TO THE STATE OF MICHIGAN BY ACT OF CONGRESS, APPROVED JULY 2, 1862, FOR THE ENDOWMENT OF COLLEGES FOR THE BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS.

(Approved March 18, 1863.)

SECTION 1. The People of the State of Michigan enact: That the governor, auditor general, secretary of state, attorney general, state treasurer, and commissioner of the state land office, shall constitute a board, to be known as the agricultural land grant board, and said board shall have the control and management of the selection, the care and disposal of the lands granted to this State by act of Congress, approved July 2, 1862, providing for the endowment of colleges for the benefit of agriculture and the mechanic arts. Said board shall appoint one or more suitable commissioners, whose duty it shall be to select and locate, as soon as practicable, the quantity of land donated to this State by the act of Congress aforesaid, and to make return of the lands so located to the commissioners of the State land office of Michigan, properly designated and described, and to notify the registers of the United States district land offices for the districts in which the selection and location is made, of such selection, as fast as the land is so selected.

§ 2. The commissioner of the State land office shall, as fast as such selections are made and returned to him, forward to the Secretary of the Interior of the United States, full and complete descriptions of all such lands, and obtain the necessary title to the State of Michigan for the same.

§ 3. The said land shall be sold for not less than two dollars and fifty cents per acre, one-fourth to be paid at the time of purchase, and the balance at the option of the purchaser, said balance to bear interest at the rate of seven per cent. per annum, payable annually into the State treasury, in accordance with and subject to the conditions of forfeiture, as provided by law for the payment of interest on contracts for money due on the purchase of primary school lands; and the sales of such lands shall be conducted in accordance with such rules and regulations as shall be prescribed by the said land grant board.

§ 4. The proceeds of the sale of said land shall be applied and used according to the conditions of the act of Congress granting the same to the State.

§ 5. Whenever said lands, or any part of them, shall have been selected, certified to the commissioner of the State land office, withdrawn from the market, and so marked on the plats, and certified by the register of any United States land office for the proper district, by the authority of the commissioner of the general land office of the United States, the commissioner of the State land office may, by direction of the said land grant board, sell said lands in quantities of not less than any legal subdivision, according to the original survey; and on such sale being made, the commissioner of the State land office shall issue his certificate of sale in the usual form, setting forth the quantity and

description of the land sold, the price per acre, the amount paid at the time of purchase, the balance due, with the annual rate of interest, and the time the interest is payable, as is required by law for the payment of interest on contracts for the purchase of primary school lands, and that the purchaser will be entitled to a patent from this State on payment in full of the principal and interest, together with all taxes assessed on such lands.

§ 6. Certificates of purchase issued pursuant to the provisions of law shall entitle the purchaser to the possession of the lands therein described, and shall be sufficient evidence of title to enable the purchaser, his heirs or assigns, to maintain actions of trespass for injuries done to the same, or ejectment, or any other proper action or proceeding to recover possession thereof, unless such certificate shall have become void by forfeiture; and all certificates of purchase in force may be recorded in the same manner as deeds of conveyance are authorized to be recorded.

§ 7. The governor of this State shall sign and cause to be issued, patents for said lands, as soon as practicable after payment is made in full of principal, interest, and all the taxes, as aforesaid.

§ 8. It shall be the duty of said land grant board, from time to time, as money is received from the sales of said lands, to cause the same to be invested in stocks of the United States, of this State, or some other safe stocks, yielding not less than five per cent. annually upon the par value of such stocks, and to keep the same invested, to constitute a perpetual fund the capital of which shall remain forever undiminished; and the annual interest shall be regularly applied, under the direction of the State board of agriculture, to the endowment, support and maintenance of the State Agricultural College, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

§ 9. The said land grant board shall, on finding that there is not in this State a sufficient amount of land belonging to the United States, subject to private entry, to make up the full amount of the land granted by said act of Congress, notify the commissioner of the United States land office of the fact, and obtain, as soon as practicable, from the proper authority, permission to select an amount sufficient to make up such deficiency from United States land in other states or territories of the United States, and shall send one or more commissioners into such states or territories to select the same, under such rules and regulations as said board may prescribe.

§ 10. The agricultural land grant board shall certify, from time to time, to the auditor general, the amount required to pay expenses of selecting and locating, and making returns of said lands, and the auditor general shall draw his warrant upon the State treasurer for the amounts thus certified, and the State treasurer shall pay the same out of the general fund. Said land grant board may make such rules and regulations in relation to the time and manner of selecting and locating the lands, making the returns, and keeping the accounts of expenses, as they may deem necessary and proper. All contracts and certificates of said board shall be signed by the chairman, and countersigned by the secretary of the agricultural land grant board.

§ 11. In the sale of lands, the principal value of which consists in the timber, the commissioner of the State land office shall require the payment of the entire amount of purchase money at the time of purchase, or such portion of the same, above one-fourth, as he may deem for the best interest of the State.

NOTE.

The State Agricultural College referred to in the above act was established by the legislature of the State of Michigan, February 12, 1855, by authorizing the president and executive committee of the State Agricultural Society to select a site for such an institution within ten miles of Lansing. The site selected embraced 676 acres of heavily timbered land. Buildings were erected and improvements made at an expense of \$100,000, and students were received May 13, 1857. In 1860, the institution was placed under the direction of a State board of agriculture. In 1863, the legislature directed that military tactics and military engineering should be added to the studies; and in accepting and appropriating the avails of the United States land grant of 1862 to this college, necessarily accepts the condition of the grant, by including the mechanic arts, "and the liberal and practical education of the industrial classes in the several pursuits and professions of life."

MINNESOTA.

AGRICULTURAL COLLEGE.

General Statutes—Revision of 1866—Chapter XXXV.

SECTION 1. There shall be established an Agricultural College on so much of section sixteen, in township one hundred and fifteen, range twenty-eight, as may be purchased by the State, and on all lands adjacent, that have been or may be donated, not less than four hundred and eighty acres, under the name and title of "The Agricultural College of Minnesota."

§ 2. The design of said institution is to afford thorough instruction in agriculture and the sciences connected therewith, and for that purpose the institution shall combine physical with intellectual education, and shall be a high seminary of learning, in which the graduates of both sexes of the common schools can commence, pursue and finish a course of study terminating in thorough theoretic and practical instruction in those sciences and arts which bear directly upon agriculture and kindred industrial pursuits.

§ 3. The course of instruction shall embrace the English language and literature, mathematics, civil engineering, agricultural chemistry, animal and vegetable anatomy, physiology, the veterinary art, entomology, geology, political, rural and household economy, horticulture, moral philosophy, history, book-keeping, and especially the application of science and the mechanic arts to practical agriculture.

§ 4. A full course of study shall embrace not less than four years. The agricultural college board may institute a partial course for students who do not desire to receive the full course. They may also adopt such courses of lectures as they deem best.

§ 5. The board shall determine the time of commencing and the length of the scholastic term or terms for each year, and the number of hours, which shall not be less than two nor more than four daily, and which may be different at different seasons of the year, that shall be devoted by each student to labor; and shall make such rules in regard to the payment of tuition as they deem most conducive to the interests of the institution, until appropriations for its support are sufficient without the payment of tuition.

§ 6. A board is hereby constituted and established which shall be known as "The Agricultural College Board," consisting of the governor, the secretary of State, and the president of the State Agricultural Society, who shall be *ex officio* members of the board; and four members to be elected by the legislature as follows: one member of said board to be elected annually for the term of four years. Any vacancy may be filled by a majority of the members of the board, and a majority shall be a quorum for the transaction of business. Each member shall, before entering upon the duties of his office, take and subscribe the oath required by law. When the said board shall decide the number of students that may be accommodated, and receive instruction at such agricultural college,

said students shall be equally apportioned among the various senatorial districts, and the senators and representatives shall recommend such young men as they in their judgment shall deem to be entitled to the privileges of education in such college.

§ 7. The Agricultural College Board shall have the government, care and management of the farm and college, and direct the disposition and use of any moneys appropriated and donated to the college, or to which the college may at any time be entitled.

§ 8. Said board may fix the time and place of holding their meetings, and adopt rules for their own government not inconsistent with the provisions of this chapter. They shall choose from their own number a president and a treasurer. They shall choose a secretary, who may or may not be a member of the board as they shall determine. Said officers shall hold their offices two years from the last Wednesday of February, and till their successors are chosen.

§ 9. Said board shall erect, provide and keep suitable and proper buildings, and establish and maintain schools therein, improve and furnish the farm, and adopt and execute such measures as they may deem necessary to secure the successful operation of the college, and promote its designed objects: *provided*, that they incur no expenses or debts beyond the moneys that may be appropriated or donated and within their immediate control for such purposes.

§ 10. The secretary shall record all proceedings of the board and of the faculty; and all regulations and rules for the government of the college. He shall keep a careful account with each field, in connection with a plan of the farming lands in which shall be shown the manner and cost of preparing ground, the kind of crops, time of planting or sowing, condition, time and manner of harvesting, the labor devoted to each process and its cost, with cost of preparing and maturing crops for market, price for which it is sold, and such other matters as the agricultural college board shall require of him. The record shall, at all reasonable hours, be open to the inspection of any citizen of the State, and the secretary shall report to the governor, on or before the first day of December of each year, which report shall embrace the proceedings of the board, and the faculty, and the condition and situation of the college and farm.

§ 11. Said board shall choose a president of the college, and such professors, teachers, superintendents and employees as the necessities of the institution demand, who shall be paid such compensation as the board determine, and whose duty shall be prescribed by the board.

§ 12. The president, professors and superintendents, and the secretary of the Agricultural College Board, shall constitute the faculty. The faculty shall have the special charge of the college and farm, and shall, with the consent of the board, make all needful rules and regulations necessary for the government and discipline of the same, regulating the routine of study, labor, meals, duties and exercises necessary to the preservation of morals, health and decorum.

§ 13. All the swamp lands in McLeod county, donated to the agricultural college by act of the legislature approved March twelve, eighteen hundred and sixty-one, shall be deemed to be inviolably set apart and donated for the use and benefit of the agricultural college provided for in this chapter.

§ 14. Whenever the governor shall, upon the recommendation of the Agri-

cultural College Board, deem the sale of a part or all of said swamp lands necessary, he shall order the commissioner of the State land office to sell the same, who shall, thereupon, proceed to have the same appraised and sold, in the same manner as school lands are now appraised and sold, except that such lands may be sold at or above any appraised value, not less than two and one half dollars per acre; and all money arising from such sales shall be deposited in the office of the State treasurer, subject to the order of the Agricultural College Board, and be drawn and expended in such manner as they may direct: *provided*, that none of said moneys shall be expended for any other purpose than the erection of agricultural college buildings upon the farm herein referred to, or the improvement of the farm, or the endowment of the professorships of the college. And until said lands are sold they shall be under the control of the Agricultural College Board, and may be used for the benefit of the college, or may be rented, and the money arising therefrom used for the benefit of the college.

§ 15. The interest of all the moneys and proceeds arising from the sales of all the lands donated to the State of Minnesota by act of congress, approved July second, eighteen hundred and sixty-two, entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," shall be applied and appropriated annually to the maintenance and support of the agricultural college of Minnesota, and the same shall be drawn from the State treasury upon the order of the president of the agricultural board, countersigned by the secretary of the board.

§ 16. When the necessary buildings have been erected and the college provided, the governor shall certify the fact to the secretary of the interior, and see that the title to the lands donated by congress to the State, herein referred to, shall be perfected in the State.

NEW HAMPSHIRE

AN ACT TO INCORPORATE THE NEW HAMPSHIRE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

(Approved July 7, 1866.)

SECTION 1. A college is hereby established, incorporated, and made a body politic and corporate, by the name of the New Hampshire College of Agriculture and the Mechanic Arts, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in conformity to an act of Congress, entitled "An Act donating land to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862, and by that name sue and be sued, prosecute and defend to final judgment and execution, and shall be vested with all the powers and privileges, and be subject to all the liabilities, incident to corporations of a similar nature.

§ 2. The general government of this college shall be vested in nine trustees, five of whom shall be appointed, one from each councillor district, and commissioned by the governor, with the advice of the council, and four of the trustees of Dartmouth College; and be so classified and commissioned that the offices of three trustees shall become vacant annually.

§ 3. The trustees shall appoint a secretary, who shall keep a full and fair record of their proceedings, and a treasurer, who shall give bonds for the faithful discharge of his duties, in such sum as the trustees may require, and may receive such compensation for his services as they may deem reasonable. They shall appoint a faculty of instruction, prescribe their duties, and invest them with such powers for the immediate government and management of the institution as they may deem most conducive to its best interests.

§ 4. No trustee shall receive any compensation for his services, but expenses reasonably incurred shall be paid by the college.

§ 5. The trustees shall make an annual report to the legislature of the financial condition, of the operations and progress of the college, recording any experiments made, with their cost and results, including state, industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail, free, to all other colleges which may be endowed under provisions of the act of Congress hereinbefore mentioned, and also one copy to the United States Secretary of the Interior.

§ 6. The trustees are authorized and empowered to locate and establish the college incorporated by this act at Hanover, in this State, in connection with Dartmouth College, and with that corporation to make all necessary contracts in relation to the terms of connection therewith, subject to be terminated upon notice of one year, given at any time after fourteen years, and to its furnishing to the College of Agriculture and Mechanic Arts the free use of an experimental

farm, of all requisite buildings, laboratories, apparatus and museums of said Dartmouth College, and for supplying such instruction, in addition to that furnished by its professors and teachers, as the best interests of its students may require ; and, also, as to any legacy said Dartmouth College may receive from the estate of the late David Culver. The said trustees are also authorized and directed to furnish, so far as may be practicable, free tuition to indigent students of the college, and to make provision for the delivery of free lectures in different parts of the State, upon subjects pertaining to agriculture and the mechanic arts.

§ 7. All funds derived from the sale of the land scrip issued to the State of New Hampshire by the United States, in pursuance of the act of Congress hereinbefore mentioned, shall be invested in registered bonds of the State of New Hampshire or of the United States, which shall be delivered to the State treasurer, who shall have custody of the same, and pay over the income thereof, as it may accrue to the treasurer of the College of Agriculture and the Mechanic Arts.

§ 8. His excellency the governor may call the first meeting of the trustees, by sending to each a written or printed notice of the time and place of holding the same, ten days before the day of meeting.

NEW JERSEY.

AN ACT APPROPRIATING SCRIP FOR THE PUBLIC LANDS GRANTED TO THE STATE OF NEW JERSEY BY THE ACT OF CONGRESS, APPROVED JULY 2, 1862.

(Approved April 4, 1864.)

WHEREAS, The governor of this State has received from the Secretary of the Interior the scrip for public lands granted to the State of New Jersey by an act of Congress of the United States, approved July 2, 1862, and holds the same, subject to such disposition as may be made by the legislature—therefore :

SECTION 1. *Be it enacted by the Senate and General Assembly of the State of New Jersey :* That the governor of this State, the attorney general, the secretary of state, the comptroller, in case such office be created, and the treasurer of the State, and their successors in office for the time being, be, and they are hereby, appointed commissioners to take charge of such scrip, and, as agents of the State, to sell and dispose of the same at such time or times, and in such mode as may appear to be most advantageous and safe ; and in the name, and on behalf of this State, to convey and transfer the same to the purchaser or purchasers thereof, and to invest the avails thereof in the manner specially provided by said act of Congress.

§ 2. Said commissioners shall, semi-annually, pay over the interest of the fund which may result from the sale of said land scrip to the trustees of Rutgers's College, in New Jersey, for the special purposes, and upon the special conditions hereinafter set forth.

§ 3. Said trustees shall devote said interest wholly and exclusively to the maintenance, in that department of Rutgers's College known as Rutgers's Scientific School, of such courses of instruction as (including the courses of instruction already established by said trustees,) shall carry out the intent of said act of Congress in the manner specially prescribed by the fourth section of said act.

§ 4. Said trustees shall furnish gratuitous education in said courses of instruction to pupils of said school in such manner as the legislature shall prescribe ; the number of pupils to be so received gratuitously into said school shall be in each year such a number as would expend a sum equal to one half of the said interest for the same year, in paying for their instruction in said school, if they were required to pay for it at the regular rates charged to other pupils of said school for the same year ; said pupils so nominated and received shall be citizens of this State, and shall be admitted into said school upon the same terms, and subject to the same rules and discipline which shall apply to all other pupils of said school, with the single exception that they shall not be required to pay anything for their instruction.

§ 5. Said trustees shall annually make and distribute the reports required by the fourth paragraph of section fifth of said act of Congress.

§ 6. No portion of the said interest shall be paid over to said trustees until they shall contract with this State, in such form as the said commissioners shall

approve, to fulfill and perform all the duties and obligations imposed upon them by this act; *provided*, that the said board of trustees shall, in their corporate capacity, obligate themselves to erect additional and adequate buildings as soon as the same may become necessary, without charge to or upon this State, and in like manner, to furnish and provide a suitable tract of land conveniently located, for an experimental farm.

§ 7. There shall be appointed by the governor, with the advice and consent of the senate, a board of visitors, consisting of ten persons, two from each congressional district in this State, who shall hold their office respectively for five years, and who shall, in the first instance, be so appointed that the term of office of two of the said board of visitors shall expire each year; and the governor shall, in like manner, appoint two annually thereafter, and shall have power to fill all vacancies in the board; but the person so appointed to fill such vacancy shall only serve under such appointment until the next meeting of the senate, and until an appointment shall have been made by the governor, with the advice and consent of the senate, and the person so appointed shall hold such office only for the unexpired term of the person whose place he is to supply; and it shall be the duty of the board of visitors to visit the said school at least twice in each year, and to make report thereon to the legislature during the second week of the annual session.

§ 8. The board of visitors shall possess general powers of supervision and control, and shall report to the legislature as to them may seem proper.

§ 9. The said board of trustees shall cause to be delivered annually in each county of this State, one or more public lectures upon the subject of agriculture, free of charge.

§ 10. The students of agriculture and the mechanic arts shall be admitted into said college upon the recommendation of the board of chosen freeholders of their respective counties, and the number of students that a county shall at any one time be entitled to have in said college shall be equal to the number of representatives in the legislature to which said county is entitled, or in proportion to the same.

§ 11. The legislature shall have power, at any time hereafter, to pass such laws as may be deemed necessary and proper to enforce the due execution of this act, and of the before-mentioned act of Congress.

§ 12. This act shall take effect immediately.

NEW YORK.

AN ACT TO ESTABLISH CORNELL UNIVERSITY, AND TO APPROPRIATE TO IT THE INCOME OF THE SALE OF PUBLIC LANDS GRANTED TO THIS STATE BY ACT OF CONGRESS, JULY 2, 1862.

(Passed April 27, 1865.)

SECTION 1. Ezra Cornell, William Kelly, Horace Greeley, Josiah B. Williams, William Andrus, John McGraw, George W. Schuyler, Hiram Sibley, J. Meredith Reed, John M. Parker, and such other persons as may be associated with them for that purpose, are hereby created a body politic and corporate, to be known as the Cornell University, which university shall be located in the town of Ithaca, in the county of Tompkins, in this State. The corporation hereby created shall have all the rights and privileges necessary to the accomplishment of the object of its creation as declared in this act, and in the performance of its duties, shall be subject to the provisions, and may exercise the powers enumerated and set forth in the second article of the fifteenth chapter, title one, of the Revised Statutes of the State of New York.

§ 2. The first board of trustees of said corporation shall consist of the persons named in the first section of this act, together with the governor and lieutenant-governor, the speaker of the house of assembly, the superintendent of public instruction, the president of the State Agricultural Society, the librarian of the Cornell Library, and the eldest male lineal descendant of Ezra Cornell, who shall be ex-officio members thereof. There shall be seventeen trustees, exclusive of the ex-officio trustees; and, to make up the said number of seventeen, the ten persons who are named in the first section of this act, and the said ex-officio trustees, or a quorum of all of them, shall, at their first meeting, in pursuance of this act, elect seven other persons to act with themselves as members of said board of trustees. But at no time shall a majority of the board be of any one religious sect, or of no religious sect.

§ 3. The farm and grounds to be occupied by said corporation, whereupon its buildings shall be erected, in such manner and to such extent as the trustees may from time to time direct and provide for, shall consist of not less than two hundred acres.

§ 4. The leading objects of the corporation hereby created shall be to teach such branches of learning as are related to agriculture and the mechanic arts, including military tactics, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life. But such other branches of science and knowledge may be embraced in the plan of instruction and investigation pertaining to the university, as the trustees may deem useful and proper. And persons of every religious denomination shall be equally eligible to all offices and appointments.

§ 5. The corporation hereby created may hold real and personal property to an amount not exceeding three millions of dollars in the aggregate.

§ 6. The income, revenue and avails which shall be received from the investment of the proceeds of the sale of the lands, or of the scrip therefor, or of any part thereof, granted to this State by the act of Congress entitled "An Act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July second, eighteen hundred and sixty-two, are hereby appropriated to, and shall from time to time, as the same shall be received, be paid over to the trustees of the corporation hereby created, for its use and behoof in the mode, and for the purposes in said act of Congress defined; provided, however, that no part of such payment shall be made unless the said trustees shall prove to the satisfaction of the comptroller, within six months after the passage of this act, that the said corporation possesses a fund of five hundred thousand dollars at least, given by Ezra Cornell of Ithaca aforesaid, which last-named fund shall be given absolutely, and without any limitation, restriction or condition whatsoever, save such as is in accordance with the provisions of this act, nor shall the same be in any manner repaid or returned to the said Cornell, his representatives or assigns, except as in this act provided; and any vote or resolution, or act or proceeding to return or repay the same, except as in accordance with this act, shall be void; and provided further, that no such payment shall be made unless within six months from the passage of this act, said Ezra Cornell of Ithaca shall pay over to the trustees of Genesee College, located at Lima in this State, the sum of twenty-five thousand dollars, for the purpose of establishing in said Genesee College a professorship of agricultural chemistry; provided further, that the trustees of the People's College, at Havana, may, in place of a strict compliance with the conditions of this act, chapter five hundred and eleven of the laws of eighteen hundred and sixty-three, in the details thereof, within three months from the passage of this act, deposit such a sum of money as, in addition to the amount already expended by them upon or for the purposes of their corporation, shall, in the opinion of the regents of the University of New York, be sufficient to enable the said trustees fully to comply with the conditions of the said chapter five hundred and eleven of the laws of eighteen hundred and sixty-three. Such deposit, if made, shall be made in such place, and on such terms, as shall be satisfactory to the said regents of the university. And the said deposit shall not be withdrawn or removed, or in any way affected or impaired, except to be applied, under the direction of the said regents, for the purposes of the said People's College, or upon the trustees thereof relinquishing any claim to the benefit of the said chapter five hundred and eleven of the laws of eighteen hundred and sixty-three. But nothing contained in this provision shall release the said trustees of the People's College from the conditions and obligations imposed or contained in section three of said act. They shall, on the contrary, in addition to the making and continuing such deposit as aforesaid, within the said three months, show to the satisfaction of the said regents, that they have complied with the requirements of the said section three, and that the college grounds, farm, work-shops, fixtures, machinery, apparatus and library occupied or owned by them are not encumbered, aliened, or otherwise disposed of. And nothing contained in this provision shall release the said trustees of the People's College from a full and perfect performance of the terms and conditions of the said act, chapter five hundred and eleven of the laws

of eighteen hundred and sixty-three, in all its details, and within the time therein limited therefor. Nor shall the trustees of the said People's College receive from the comptroller any portion of the income and avails of the said lands until they have complied with and performed the terms and conditions of the said act, chapter five hundred and eleven of the laws of eighteen hundred and sixty-three, to the satisfaction of said regents; nor shall they receive any portion of the said avails and income or revenue unless they comply with the conditions of this act, by making and continuing the said deposit. If the said trustees of the People's College shall not, within the term mentioned in the said act, chapter five hundred and eleven, have complied therewith to the satisfaction of the said regents, or if within the said term of three months they shall not have made the said deposit, in accordance with and upon the terms fixed by this act, then the avails, income and revenue which shall be received from the investments of the proceeds of the sales of the said lands, or of the scrip therefor, shall be disposed of to the corporation hereby created, in the manner provided for in this section, and not before. If, on the other hand, the said trustees of the People's College shall, within the time provided for in the act, chapter five hundred and eleven of the laws of eighteen hundred and sixty-three, and as herein provided, to the satisfaction of the said regents, comply with the conditions and obligations thereof and hereof, so that they shall be entitled to receive and enjoy the benefits thereof and hereof, then the said sum of five hundred thousand dollars given by Ezra Cornell, shall, in his option, or that of his personal representatives or assigns, revert to him or them. Moreover, the trustees of the People's College may, at any time, upon written notice to the said regents, withdraw and remove the aforesaid deposit; but such notice and withdrawal, or either of them, shall be deemed a relinquishment and forfeiture by them, of the benefit to them of the said chapter five hundred and eleven, and of the benefit of this act; and, thereupon, upon the performance of the said Ezra Cornell, or of his heirs, and of the corporation hereby created, of the conditions and obligations of this act, the said income, avails and revenue shall be disposed of to the said Cornell University, as hereinbefore provided.

§ 7. The trustees of said university, if they shall become entitled to the benefits of this act, shall make provisions, to the satisfaction of the regents, in respect to buildings, fixtures, and arrangements generally, within two years from the passage thereof, to fulfill the provisions of the aforesaid act of Congress. They shall also make all reports, and perform such other acts as may be necessary to conform to the act of Congress aforesaid. The said university shall be subject to the visitation of the regents of the university of New York.

§ 8. From and after the time the said corporation shall have become entitled to the benefits of this act as aforesaid, the said university grounds, farm, workshops, fixtures, machinery, apparatus, cabinets and library, shall not be encumbered, aliened, or otherwise disposed of by the said trustees, or by any other person, except on terms such as the legislature of the State of New York shall have approved, and any act of the said trustees, or that of any other person, which shall have that effect, shall be void.

§ 9. The several departments of study in the said university shall be open to applicants for admission thereto at the lowest rates of expense consistent with its welfare and efficiency, and without distinction as to rank, class, previous oc-

cupation or locality. But with a view to equalize its advantages to all parts of the State, the institution shall annually receive students, one from each assembly district of the State, to be selected as hereinafter provided, and shall give them instruction in any department of said institution, free of any tuition fee, or of any incidental charges to be paid to said university, unless such incidental charges shall have been made to compensate for damages heedlessly or purposely done by the students to the property of said university. The said free instruction shall moreover be accorded to said students in consideration of their superior ability, and as a reward for superior scholarship in the academies and public schools of this State. Said students shall be selected as the legislature may from time to time direct, and, until otherwise ordered, as follows: The school commissioner or commissioners of each county, and the board of education of each city, or those performing the duties of such a board, shall select annually the best scholar from each academy and each public school of their respective counties or cities as candidates for the university scholarship. The candidates thus selected in each county or city shall meet at such time and place in the year as the board of supervisors of the county shall appoint, to be examined by a board consisting of the school commissioner or commissioners of the county, or by the said board of education of the cities, with such other persons as the supervisors shall appoint, who shall examine said candidates and determine which of them are the best scholars; and the board of supervisors shall then select therefrom, to the number of one for each assembly district in said county or city, and furnish the candidates thus selected with a certificate of such selection, which certificate shall entitle said student to admission to said university, subject to the examination and approval of the faculty of said university. In making these selections, preference shall be given (when other qualifications are equal) to the sons of those who have died in the military or naval service of the United States; consideration shall be had also of the physical ability of the candidate. Whenever any student selected as above described shall have been from any cause removed from the university before the expiration of the time for which he was selected, then one of the competitors to his place in the university, from his district, may be elected to succeed him therein, as the school commissioner or commissioners of the county of his residence, or the board of education of the city of his residence, may direct.

§ 10. All payments made under this act out of the treasury of the State shall be made by the treasurer on the warrant of the comptroller out of the special fund on deposit with the treasurer arising from the receipt of the income and revenue and avails mentioned in the sixth section of this act.

§ 11. Chapter five hundred and eleven of the laws of eighteen hundred and sixty-three, entitled "An Act to appropriate the income and revenue which may be received from the investment of the proceeds of the sales of the lands granted to the State by the act of Congress, entitled 'An Act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts,' approved July second, eighteen hundred and sixty-two, passed May fourteenth, eighteen hundred and sixty-three," shall be read and construed, subject to the provisions of this act; and whenever the provisions of said act, chapter five hundred and eleven of the laws of eighteen hundred and sixty-three, and the other provisions of this act

shall conflict, the provisions of this act shall be deemed the law, and shall prevail.

§ 12. The legislature may, at any time, alter or repeal this act.

§ 13. This act shall take effect immediately.

AN ACT TO AUTHORIZE AND FACILITATE THE EARLY DISPOSITION BY THE COMPTROLLER OF THE LANDS OR LAND SCRIP DONATED TO THIS STATE BY THE UNITED STATES.

(Passed April 10, 1866.)

SECTION 1. The comptroller is hereby authorized to fix the price at which he will sell and dispose of any or of all the lands or land scrip donated to this State by the United States of America by act of Congress, approved July second, eighteen hundred and sixty-two, and entitled "An Act donating public lands to the several states and territories which may provide colleges for instruction in agriculture and the mechanic arts." Such price shall not be less than at the rate of thirty cents per acre for said lands. He may contract for the sale thereof, and sell the same to the trustees of Cornell University. If the said trustees shall not agree with said comptroller for the purchase thereof, then the commissioners of the land office may receive from any person or persons an application for the purchase of the whole, or of any part thereof, at the price so fixed by said comptroller, and may, if they are satisfied that the said person or persons will fully carry out and perform the agreement hereinafter mentioned, sell the same, or any part thereof, to the said person or persons. But said trustees or said person or persons shall, at the same time, make an agreement and give security for the performance thereof to the satisfaction of the comptroller, to the effect that the whole net avails and profits from the sale of scrip, or the location and use by said trustees, person or persons, of the said lands or of the lands located under said scrip, shall, from time to time, as such net avails or profits are received, be paid over and devoted to the purposes of such institution or institutions as have been or shall be created by the act, chapter five hundred and eighty-five of the laws of eighteen hundred and sixty-five, of the State of New York, in accordance with the provisions of the act of Congress hereinbefore mentioned. And the said trustees, person or persons, to whom the said lands or land scrip shall be sold, shall report to the comptroller annually, under such oath and in such form as the comptroller shall direct, the amount of land or land scrip sold, the prices at which the same have been sold, and the amount of money received therefor, and the amount of expenses incurred in the location and sale thereof.

§ 2. The comptroller is authorized, from time to time, as he shall see fit, to make such examination into the action and doings of his vendees of said lands or scrip therewith, as he shall deem necessary, to ascertain and determine what are the net avails of the said lands or scrip from the sale or from the location and use thereof by his said vendees.

OHIO.

AN ACT TO PROVIDE FOR THE SALE OF LAND SCRIP, AND THE LOCATION, AND ORGANIZATION OF A COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

(Passed April 13th, 1865.)

SECTION 1. The auditor, treasurer, and secretary of state are hereby authorized and directed on or before May 1st, 1865, to advertise in such form as they may deem proper, for proposals for the purchase of the land scrip received from the United States, for the establishment of an agricultural college or colleges in the State of Ohio. Such advertisement shall authorize proposals to be received by the auditor, treasurer, and secretary of state, and by the auditor and treasurer in each and every county of the state. The term of said notice shall not be for less than ninety days from the date thereof. No proposition shall be received for less than one hundred and ninety acres, nor for a rate of less than eighty cents per acre.

§ 2. If offers should not be received for the whole of said scrip, acceptable to said auditor, treasurer, and secretary of state, the said officers are authorized and directed to again advertise in like manner, for the proposals for the portion remaining unsold. The term of said notice shall be sixty days from date, and be otherwise governed by the regulations hereinbefore provided.

§ 3. Upon the acceptance of proposals and payment thereon, the party entitled thereto shall receive from said officers the amount of scrip purchased, with a certificate that he has duly purchased and paid for the same; and on presentation of the same to the governor, he shall execute the necessary transfer of the scrip, in accordance with the regulations provided by the several land offices therefor.

§ 4. The auditor and treasurer of each county in the state shall finally receive for such service as they may perform under this act, in accordance with their instructions from the auditor, treasurer, and secretary of state a sum equal to five per centum on all money received and paid over by them upon the first three hundred and twenty acres of scrip sold, three per cent. on all money so received and paid over for the next three hundred and twenty acres sold, and one per cent. on all receipts for sales after six hundred and fifty acres have been sold; and it is hereby made the duty of the auditor and treasurer of each county in the state to perform such services as may be required of them by the auditor, treasurer, and secretary of state, under this act; and the aforesaid county officers shall be paid by the auditor of state, out of the money hereinafter appropriated for such purpose.

§ 5. Said auditor, treasurer, and secretary of state, on or before the first day of December next, shall make to the governor a full and explicit report of their proceedings under this act; which report the governor shall communicate to the general assembly at its next session.

§ 6. All money received from the sale of land scrip shall be paid into the

state treasury, and shall be appropriated and used by the commissioners of the sinking fund for the reduction and payment of the other public debt of the state.

§ 7. Upon the amount of money so received for the sale of scrip appropriated for and to be used in the reduction of the other public debt of the state as aforesaid, there shall be allowed, and paid semi-annually on the first days of July and January in each year, interest at the rate of six per cent. per annum; which shall be appropriated as provided in the act of congress approved July 2d, 1862, "to the endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts;" and for the prompt and regular payment of said interest, the preservation and appropriation of said fund, and the strict observance and fulfillment of the act of congress before referred to, the faith of the state is hereby irrevocably pledged.

§ 8. The commissioners of the sinking fund are hereby authorized and empowered, as fast as the sinking fund will enable them to do so, to reduce the debt called the "agricultural fund," by the purchase of stocks of the United States or of this state, yielding not less than six per centum, upon the par value of said stocks, which stocks, when so purchased, shall be transferred to the "State of Ohio, in trust for the agricultural college," and shall be deposited with the treasurer of state, and when so purchased, transferred and deposited, shall, to the extent of the amount paid for such stocks, reduce the debt hereby created and denominated "the agricultural fund."

§ 9. There shall be appointed by the governor, by and with the advice and consent of the senate, five commissioners, no two of whom shall be residents of the same congressional district; two of whom shall be selected so as to represent the agricultural, and two representing the mechanical and manufacturing interests of the state, who shall be required to take and endorse upon their certificates of appointments an oath or affirmation to honestly and faithfully perform the duties imposed upon them by this act; one of said commissioners shall be selected with reference to his military knowledge.

§ 10. Said commissioners, after full examination, shall report to the governor by the first of December next, their opinion as to the place for locating said college or colleges; and in forming such opinion, said commissioners shall consider the accessibility of such location to all parts of the state, by the ordinary means of travel, the inducements which may be offered by any locality in the way of donations of land, buildings, money, or other valuable property, for said college or colleges, the practicability of procuring at reasonable expense the necessary quantity of land adapted to the use of an experimental farm, with such other considerations as should have influence in the selection of such location. Said commissioners shall also consider and report any propositions which are now, or may, within six months, be made, with the inducements offered for the establishment of more than one such college or colleges.

§ 11. Said commissioners shall prepare and submit a detailed report for the organization of said college or colleges, and the necessary buildings therefor. It shall embrace the proper control and management of the property, the necessary structures, implements and stock of the farm; the branches and their respective divisions of learning to be taught; the course of studies to be pur-

sued, and their terms and extent; the professorships required to be established; the character and extent of experimental husbandry upon the farm; the propriety and feasibility of connecting experimental studies in the mechanic arts; the probable expenditures for these respective purposes, and the probable annual expenses of conducting said institution, with such other matters as they may deem important or valuable as connected therewith.

§ 12. Said commissioners shall report to the governor by the first day of December next, their said plan of organization, with a full report of their proceedings under the requirements of this act, which the governor shall communicate to the general assembly at its next session.

§ 13. Said commissioners shall receive no compensation for their services, but may be allowed their necessary expenses in the discharge of their official duties.

§ 14. For the purpose of carrying into effect the provisions of this act, the sum of five thousand dollars is hereby appropriated from any money in the treasury not otherwise appropriated.

AN ACT RELATIVE TO THE ESTABLISHMENT OF THE OHIO AGRICULTURAL AND
MECHANICAL COLLEGE.

(Approved April 5th, 1866.)

SECTION 1. The governor of Ohio, *ex-officio*, the president of the Ohio State Board of Agriculture, *ex-officio*, and five other persons, so chosen as to represent all the industrial classes of the state, to be appointed by the governor, with the consent of the Senate, are hereby constituted a board of trustees, whose duty it shall be to receive proposals and report to the next session of this general assembly, such proposals as may have been received, and their opinion as to the place for locating an agricultural and mechanical college for the State of Ohio, in accordance with an act of congress, approved July 2d, 1862, entitled "An Act donating public lands, &c."

§ 2. Said trustees are hereby authorized to receive proposals for donations of land, building and money in trust for the state of Ohio, for the location and establishment of a college as contemplated by the act of congress referred to in the first section of this act.

§ 3. The trustees shall receive no *per diem*, but shall have all their necessary expenses paid while actually in the service of the State.

§ 4. This act shall take effect from and after its passage, and the governor shall immediately thereafter notify said persons of their appointment, and designate a day for their meeting in the city of Columbus, for the organization of said board.

PENNSYLVANIA.

AN ACT TO ACCEPT THE GRANT OF PUBLIC LANDS, BY THE UNITED STATES, TO THE SEVERAL STATES FOR THE ENDOWMENT OF AGRICULTURAL COLLEGES.

(Approved April 1st, 1863.)

WHEREAS, By an act of congress, passed the second day of July, one thousand eight hundred and sixty-two, a grant of land was made to the several states and territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts, equal to thirty thousand acres for each senator and representative in congress to which the states are respectively entitled, by the appointment under the census of one thousand eight hundred and sixty, which act of congress requires that the several states, in order to entitle them to the benefit of said grant, should, within two years from the date of said act, express their acceptance of the same:

And whereas, The legislature of Pennsylvania has already shown its high regard for the agricultural interest of the state, by the establishment of the Agricultural College of Pennsylvania, and by making liberal appropriations thereto: therefore, *Be it enacted, &c.*

SECTION 1. That the act of the congress of the United States, passed July 2d, 1862, entitled "An Act donating public land &c.," be and the same is hereby accepted by the State of Pennsylvania, with all its provisions and conditions, and the faith of the state is hereby pledged to carry the same into effect.

§ 2. The surveyor general of the State of Pennsylvania is hereby authorized and required to do every act and thing necessary to entitle this state to its distributive share of land scrip, under the provisions of the said act of congress, and when the said land scrip is received by him, to dispose of the same, under such regulations as the board of commissioners hereafter appointed by this act shall prescribe.

§ 3. The governor, auditor general, and the surveyor general, are hereby constituted a board of commissioners, with full power and authority to make all needful rules and regulations respecting the manner in which the surveyor general aforesaid shall dispose of the said land scrip, the investment of the proceeds thereof in the state stocks of this state, and apply interest arising therefrom as herein directed, and in general to do all and every act or acts, necessary to carry into full effect the said act of congress: *Provided*, that no investment shall be made in any other stocks than of the United States, or of this commonwealth.

§ 4. Until otherwise directed by the legislature of Pennsylvania, the annual interest accruing from any investment of the funds acquired under the said act of congress, is hereby appropriated, and the said commissioners are directed to pay the same to the Agricultural College of Pennsylvania, for the endowment, support and maintenance, of the said institution, which college is now in full and

successful operation, and where the leading object is, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts.

§ 5. Said Agricultural College of Pennsylvania shall, on the first day of February of each year, make report to the legislature of the receipts and expenditures of said institution, for the preceding year.

A SUPPLEMENT to the act to accept the grant of public lands, by the United States, to the several states, for the endowment of Agricultural Colleges, passed April 1st, 1863.

(Approved April 11, 1866.)

SECTION 1. Be it enacted, &c. That the third section of the act entitled "An Act to accept the grant of public lands, by the United States, to the several states, for the endowment of Agricultural Colleges," passed April 1st, 1863, shall be so construed as to authorize the governor, auditor general, and surveyor general, as commissioners, in the performance of duties devolved upon them by the said act, to direct the payment of expenses of disposing of the said land scrip, out of the money in the treasury not otherwise appropriated: *Provided*, That no more than one-third of the distributive shares of the said land scrip, donated to this state, shall be sold under the provisions of this act.

§ 2. The board of trustees of the Agricultural College of Pennsylvania, be and they are hereby authorized to borrow a sum of money, not exceeding eighty thousand dollars, at a rate of interest not exceeding seven per cent., and taxes with which to pay and consolidate all the debts of the institution, and to secure the same by a mortgage upon the property thereof.

NOTE.

The Agricultural College of Pennsylvania was opened in Centre county, six miles from Belle Fonte, February 16, 1859, under the name of "the Farmers' High School of Pennsylvania," which name was exchanged for the present designation in 1862. Its history and present organization and prospects will be given in Part II.

RHODE ISLAND.

RESOLUTIONS ASSIGNING TO BROWN UNIVERSITY, THE LAND SCRIP GRANTED BY THE UNITED STATES TO THE STATE OF RHODE ISLAND, FOR THE ESTABLISHMENT OF AN AGRICULTURAL COLLEGE.

RESOLVED, That his excellency the governor, be, and hereby is, authorized and appointed on the part of the state, to transfer, assign and set over to the corporation of Brown University, in the city of Providence, the scrip now in the possession of the governor, or which may hereafter come in his possession from the government of the United States, under and by virtue of a resolution passed by this general assembly, at its present session, upon receiving from the said corporation or its duly authorized agent, the following stipulations; which stipulations shall be as and for a perpetual agreement, by and between said corporation and state as aforesaid, and shall be in form substantially as follows, that is to say: said corporation does hereby agree

1. To provide a college or department in said university, the leading object whereof shall be, without excluding other scientific and classic studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts, in such manner as hereinafter stated, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

2. To locate without unnecessary delay, and at their best discretion, the said scrip upon some of the public lands of the United States, properly open to be located upon, and from time to time to sell and dispose of the lands so to be located upon, so that the largest price can be obtained for the same.

3. To invest and to keep invested the proceeds of the said sales in stocks or securities of the United States or of this state; but if this should be impracticable, so that an income therefrom of at least five per centum per annum upon their par value could not be realized, then to invest such proceeds in some other safe stocks (the safety of which other stocks the university shall guarantee,) upon which an income of at least five per centum, as aforesaid, can be realized.

4. To pay all expenses of locating and selling said lands, and all taxes which may be assessed thereon, or upon the proceeds thereon.

5. To apply faithfully the income arising from the avails of the sales of said lands in endowing, maintaining and supporting a college in said university as aforesaid, for the objects as aforesaid, so that no portion of said proceeds or income therefrom shall be used in the erection, preservation, purchase, or repairing of any building or buildings, for the college or other purposes: provided, however, that a portion of said proceeds of said sales, not exceeding one-tenth part thereof, may, at the discretion of the corporation be expended according to said act of congress, in the purchase of lands for sites, or an experimental farm, whenever said corporation shall so determine.

6. To educate scholars, each at the rate of one hundred dollars per annum, to the extent of the entire annual income from said proceeds, subject to the proviso as aforesaid; the governor and secretary of state, to have the right on or before commencement day of each year, and in conjunction with the president of the university, to nominate candidates for vacancies occurring in said college or department as aforesaid, at the beginning of each collegiate year; and students admitted to said college, and pursuing studies therein by virtue of said fund, are not to be excluded from the regular scientific and classic studies of said university, in entering and remaining thereat; and are to be graduated with the degree of Bachelor of Philosophy or Bachelor of Arts, or are to receive a certificate for a partial course, according as the case may be.

7. To assume upon itself all the responsibilities and duties which are imposed upon the state by the said act of congress; and also all the duties imposed upon colleges endowed under the provisions of said act, and to be entitled to all the privileges and immunities conferred thereby upon the state, and upon institutions endowed thereunder.

8. To make to the governor of the state an annual report, a copy of which shall be communicated to the general assembly, of all lands located and sold, until the whole is disposed of, the amount received for the same and how invested, and of the appropriations made of the proceeds therefrom, and stating the number of the students to whom the same has been applied, and of all the matters prescribed by said act of congress as aforesaid.

RESOLUTION PROVIDING FOR THE NOMINATION OF STATE BENEFICIARIES TO BE EDUCATED AT BROWN UNIVERSITY.

RESOLVED: That the senators and representatives from the several towns in the general assembly for the time being, are constituted a board of commissioners, whose duty it shall be during the January session in each year, to present to the governor and secretary of state, the names of worthy young men from the several towns, to be educated as state beneficiaries in Brown University, according to the act of congress donating land to the several states and territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts. And the said commissioners are hereby instructed, after one candidate has been presented from each town in the state, (the order of the towns to be determined by lot,) to select the candidates as far as may be from the several towns in the ratio of their representation in the house of representatives, and from that class of persons who otherwise would not have the means of providing themselves with the like benefits; and that the governor and secretary of state be, and they are hereby, instructed to select candidates from the names presented, in such manner as that whenever for any reason any town shall not have received its just quota of those admitted to said university, such towns shall, in the nomination of subsequent candidates, have priority over those towns which have received their full quota.

VERMONT.

AN ACT TO ESTABLISH THE VERMONT AGRICULTURAL COLLEGE.

(Approved November 22, 1864)

SECTION 1. Justin S. Morrill, Edwin Hammond, Roderick Richardson, Elijah Cleaveland, Seneca M. Dorr, Horace Herrick, Peter T. Washburn, Orville G. Wheeler, Treno W. Park, Lemuel H. Tabor, Horace Fairbanks, Samuel H. Stevens, George G. Benedict, Frederick Holbrook, their associates and successors, are hereby constituted a body corporate, by the name of the Vermont Agricultural College, the leading object of which shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life, to be located as hereinafter provided; and they and their successors, and such as shall be duly elected trustees and members of said corporation, shall be and remain a body corporate by that name forever. The above named corporators shall be called together for their first meeting by the Governor, at such time and place as he shall select, and shall then be divided by lot into three classes; the first class, consisting of five members, shall vacate their office at the end of two years from the time of their election; the second class, consisting of five members, shall vacate their office at the end of four years from the time of their election; and the third class, consisting of four members, shall vacate their office at the end of six years from the time of their election; and it shall be the duty of the Legislature, at the expiration of the term of office of any of the above named corporators, to elect a person to supply the vacancy, whose term of office shall continue six years. And for the orderly conducting of the business of said corporation, the said trustees shall have power and authority, from time to time, as occasion may require, to elect a president, secretary and treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices; and whenever vacancies shall occur in the board of trustees, the legislature shall fill the same. *Provided*, that the number of members shall never be greater than fourteen, exclusive of the governor of the State and the president of the faculty, each of whom shall be, *ex-officio*, a member of said corporation. *Provided*, further, that all future elections or appointments to said board of trustees shall be made with special reference to preventing any religious denominational preponderance in said board.

§ 2. The said corporation shall have power to determine at what times and places their meetings shall be holden, and the manner of notifying the trustees to convene at such meetings; and also, from time to time, to elect a president of said college, and such professors, instructors and other officers of said college, as they shall judge most for the interest thereof; and to determine the duties, salaries, responsibilities and tenures of their several offices. And said corpora-

tion are further empowered to purchase or erect and keep in repair such houses and other buildings as they shall judge necessary for said college ; and also to make and ordain, as occasion may require, reasonable rules, orders and by-laws, not repugnant to the constitution and laws of this State, with reasonable penalties, for the good government of said college, and for the regulation of their own body ; and also to determine and regulate the course of instruction in said college, and to confer such appropriate degrees as they may determine and prescribe. *Provided*, that no corporate business shall be transacted at any meeting, unless one half at least of the trustees are present.

§ 3. The said corporation may have a common seal, which they may alter or renew at pleasure ; and said corporation may sue and be sued in all actions, real, personal or mixed, and may take and hold in fee simple, or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal.

§ 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the use of said college, in such manner as shall most effectually promote the objects declared in the first section of this act, and as may be recommended from time to time by said corporation.

§ 5. The legislature of this State may grant any further powers to, or alter, limit, annul or restrain any of the powers vested by this act in said corporation, as shall be found necessary to promote the best interest of said college, and may appoint overseers or visitors of said college, with all necessary powers for the better aid, preservation and government thereof ; and the said corporation shall make an annual report of its condition, financial and otherwise, to the legislature at the opening of its session.

§ 6. The board of trustees shall determine the location of said college, in some suitable place within this State, and may, in their discretion, purchase or obtain by gift, grant or otherwise, in connection therewith, a tract of land containing at least one hundred acres, to be used as an experimental farm, or otherwise, so as best to promote the objects of the institution. And they may also, in their discretion, make such provision for the manual labor of the students on said farm, as they shall deem reasonable.

§ 7. One-tenth of all the moneys which may be received by the State treasurer from the sale of land scrip, by virtue of the provisions of the one hundred and thirtieth chapter of the acts of the thirty-seventh Congress, at the second session thereof, approved July 2, A.D. 1862, and of the laws of this State, shall be paid to said college, and appropriated towards the purchase of said site or farm. *Provided*, said trustees shall determine to procure such farm ; and provided further, that the said college shall first secure, by valid subscription or otherwise, the further sum of not less than one hundred thousand dollars, for the purpose of erecting suitable buildings thereon, providing libraries and apparatus, and defraying the necessary expenses of the college ; and upon satisfactory evidence that this proviso has been complied with, the governor is authorized, from time to time, to draw his warrants therefor.

§ 8. When the said college shall have been duly organized, located and established, as, and for the purposes specified in this act, there shall be appropriated and paid to its treasurer each year, on the warrant of the governor, the

annual interest or income which may be received from the fund created under and by virtue of the act of Congress named in the seventh section of this act, and the laws of this State accepting the provisions thereof and relating to the same.

§ 9. In the event of a dissolution of said corporation by its voluntary act, at any time, the real and personal property belonging to the corporation shall revert and belong to the State, to be held by the same and be disposed of as it may see fit, in the advancement of education in agriculture and the mechanic arts. The legislature shall have authority, at any time, to withhold the portion of the interest on income from said fund provided in this act, whenever the corporation shall cease or fail to maintain a college within the provisions and spirit of this act and the act of Congress before mentioned, or for any cause which they deem sufficient.

§ 10. This act shall be in operation until said corporation shall have procured valid and solvent subscriptions, to the amount of one hundred thousand dollars, to be applied to the endowment or other uses of said college; and said corporation shall cease to exist on the 15th day of November, 1865, unless the foregoing subscription shall have been obtained.

§ 11. This act shall be under the control of all future legislatures, to alter, amend or repeal.

AN ACT TO INCORPORATE THE UNIVERSITY OF VERMONT AND STATE AGRICULTURAL COLLEGE.

(Approved November 9, 1865.)

It is hereby enacted by the General Assembly of the State of Vermont :

SECTION 1. The University of Vermont and the Vermont Agricultural College, with such other corporations as may hereafter become united therewith, are hereby united and constituted a body corporate, by the name of the "University of Vermont and State Agricultural College," for the purpose of carrying out the objects contemplated in their respective charters, and, as such, shall be and remain a body corporate forever, and as such may hold and convey real and personal estate, have a common seal, and have all the rights and powers incident to corporations.

§ 2. Each of the two institutions hereby united shall, on or before the fifteenth day of December next, elect by ballot nine of their number, who, with their successors, shall thereafter constitute its board of trustees, and likewise constitute a part of the board of trustees of the corporation hereby created, and the nine trustees of the said Agricultural College, so elected, shall be divided by lot into three classes: the first class, consisting of three members, shall vacate their office at the end of two years from their election; the second class, consisting of three members, shall vacate their office at the end of four years from the time of their election; and the third class, consisting of three members, shall vacate their office at the end of six years from the time of their election; and it shall be the duty of the legislature, at its session next preceding the time of the expiration of the terms of office of said trustees, to elect persons to supply such vacancies, whose terms of office shall continue six years, and it shall

be the duty of the said nine trustees of the University of Vermont, to elect successors to fill any vacancy which may occur among their number, and all the trustees so elected as is hereinbefore provided, shall, together with his excellency, the governor of the State, and the president, who shall be, *ex-officio*, a member, constitute an entire board of trustees of the corporation hereby created, who shall have the entire management and control of its property and affairs, and in all things relating thereto, except in the elections to fill vacancies as aforesaid, shall act together jointly, as one entire board of trustees; *provided*, that all future elections or appointments to said board of trustees shall be made with special reference to preventing any religious denominational preponderance in said board.

§ 3. Said board of trustees, a majority of whom may constitute a quorum for the transaction of business, may confer such honors and degrees as are usually given in colleges and universities, and any other appropriate degrees, and may, from time to time, as occasion may require, elect a president, also a secretary, treasurer, librarian, professors, instructors, and any other necessary officers, and prescribe their duties, salaries and term of office, and may make all necessary by-laws and regulations for the government of themselves and others connected with the institution, not inconsistent with the provisions of this act, and therein prescribe the terms of admission, rates of tuition, modes of study, and course of instruction, including any proper regulations for uniform, discipline and military drill, as well as for experimental and practical instruction in the different branches of agricultural labor.

§ 4. Said board of trustees shall have the right to use, control, sell or dispose of all the real estate and personal property now belonging to the University of Vermont, and belonging to any other institution at the time of its union, if such union shall be made with this corporation agreeably to this act, subject, however, to the payment of any debts of such institutions existing at the time of such union, and subject to any trusts, duties and obligations connected therewith, and shall be entitled to receive and use, for the purposes aforesaid, the rents and uses of any of the aforesaid lands, including the rents and uses of all such lands as have been heretofore reserved in any charter of land in this State for the use and benefit of any college, and may have the same rights in respect to said lands, and to any leases of the same, and to any rents arising therefrom, that said institutions respectively now have, and may maintain suits in their own name, or in the name of such new corporation, to recover the same; *provided*, that the rights of all parties shall remain, and the same defenses shall be had to such suits as if the same were brought in the name and as between the said original parties; and the corporation hereby created shall, at all times, assume, discharge and perform all the debts, duties, trusts and obligations which said several institutions were subject to at the time they became united in said new corporation, by virtue of this act.

§ 5. There shall at all times be maintained in the institution hereby created, such instruction in the various branches of learning, as is contemplated in the several charters of each of the institutions hereby united; and more particularly including a four years' course of studies, similar to such as are generally taught in other colleges, and not inferior to that recently taught in said University of Vermont; and in addition to that which is usually taught in other

colleges, the instruction in this institution shall include such enlarged facilities and extended scope and variety in the study of those branches which relate to military tactics, agriculture and the mechanic arts, as shall render the whole instruction in conformity with said act of Congress, as well as with the several charters aforesaid.

§ 6. Said trustees may, in their discretion, obtain by gift, grant or otherwise, a tract of land which, together with the land now owned by the University of Vermont, shall amount to at least one hundred acres, to be used as an experimental farm, whereon they may make any desirable experiments in the breeding of stock, field culture, the analysis and adaptation of soils, and horticultural and botanical gardening, or either of them, as they may deem proper, and also for the purpose of military encampment, target-firing, drill and review; and said trustees may use, lease or dispose of the same, as they may think proper, so as best to promote the objects of the institutions. And in case said land shall be procured, as aforesaid, a sum not to exceed one-tenth of the money which has been received by the State treasurer for the sale of land scrip, in pursuance of the act of Congress authorizing the same, shall be paid to said board of trustees for the purposes aforesaid; *provided*, that no agricultural labor shall be required of students, except by their voluntary agreement or consent.

§ 7. Whenever this corporation shall have been duly organized, there shall be appropriated and paid to its treasurer, annually, for the purpose herein mentioned, on the warrant of the governor, the interest or the income which may be received from the fund created under and by virtue of the act of Congress.

§ 8. The corporation hereby created shall make annual reports to the legislature of this State, of their condition, financial and otherwise, and make and distribute the reports required by the act of Congress herein referred to, and the legislature may annually appoint a board of visitors, who may annually examine the affairs of said corporation.

§ 9. The permanent location of the institution hereby created shall be in Burlington, in said State of Vermont, and the first meeting of the board of trustees shall be there held on the 15th day of November next, at seven o'clock, P. M., or if such meeting shall not be held at that time, it shall be held at such other time and place as the governor of this State may appoint, seasonable notice of said appointment having been first given to each of the trustees or corporators of the Vermont University and Vermont Agricultural College.

§ 10. The president and fellows of Middlebury College and the Norwich University, or either of them, may hereafter, with the assent and concurrence by vote of a majority of each of the nine trustees elected as aforesaid, and their successors, become incorporated and united with the corporation hereby created, by vote of their said corporations, at any meeting legally warned and holden, and by leaving for record, in the office of the secretary of the state, a true and attested copy of such vote or votes, and of all the proceedings of the meeting or meetings at which the votes aforesaid were passed, and causing the same to be recorded in said office.

§ 11. If, at any time, the corporation hereby created shall fail substantially to carry out the provisions and requirements of this act, the supreme court of this State may, at any stated session thereof, having first given due notice to said corporation, annul and vacate this charter, and in such case, or in case said

corporation shall otherwise be dissolved, said supreme court may, on application, order and decree that the income thereafter to be derived from the proceeds of the sale of said land scrip in the hands of the State treasurer as aforesaid, together with such amount as may have been paid over by said treasurer for the purpose of an experimental farm, shall revert to said Vermont Agricultural College, and all the other property and effects which, at the time of said union, belonged to said other institution, shall revert to and be the property of the other institution or institutions which shall have been united and incorporated by, or in pursuance of this act, and in case more than one such other institution shall have been thus united, such other property shall revert to them separately, such specific property to each, as said court shall adjudge and decree, having reference in making such decree to what was originally owned or contributed by each; *provided*, that in respect to any property or funds hereafter acquired by said new corporation, by gift, grant, bequest or otherwise, the same shall be awarded and distributed to each of the institutions hereby incorporated or hereafter united, in such manner as said court shall deem just and equitable, having reference to the manner the same was acquired, and to any specific trusts, or expressed intention of any donors, made at the time the same was acquired. And for the purposes aforesaid, as well as for all other purposes, the said several corporations which shall have been united by virtue of this act, shall be deemed and treated as having continued in life, and the several trustees which shall have been elected by each at the time they were united, and their successors, shall be deemed and treated to have been, since the time of their elections, the trustees of their respective institutions, as well as trustees of the united corporation, and, as such trustees, may receive the property and effects which may revert to their respective corporations by such decree of court, and they and their successors, whom they may thereafter appoint, may continue and manage the affairs of their respective corporations thereafter, in the same manner as the trustees of each might have done before they were united as aforesaid.

§ 12. This act shall take effect whenever the two corporations hereby united shall, at a meeting duly warned, vote to accept the same, and to surrender and relinquish to the corporation hereby created, all the property belonging to them, whether real or personal, and all the rents, profits and income therefrom arising, including said proceeds from the sale of said land scrip, for the purpose, and subject to all the rights, trusts and conditions as in this act provided; and it shall be the duty of each of said corporations to cause a copy of the record of such votes, duly certified by the secretaries of their respective corporations, to be left for record and duly recorded in the office of the secretary of state; whereupon, by virtue of such votes, such property, rents, profits and income shall become the property of the corporation hereby created, for the purposes, and subject to the rights, trusts and conditions aforesaid; and said property, and the property hereafter acquired by the corporation hereby created, shall be subject to all the conditions, immunities and exemptions now pertaining to the property now held by said University of Vermont.

§ 13. All of an act entitled "An Act to establish the Vermont Agricultural College," approved November 22, 1864, which is inconsistent with the provisions of this act, is hereby repealed.

WEST VIRGINIA.

AN ACT FOR THE REGULATION OF THE WEST VIRGINIA AGRICULTURAL COLLEGE.

(Passed February 7th, 1867.)

Whereas, The congress of the United States did by act passed July 2d, 1862, and by subsequent act passed April 19th, 1864, donate to the State of West Virginia certain lands, (one hundred and fifty thousand acres,) for the promotion of Agriculture and the Mechanic Arts, including military tactics, within the State of West Virginia; the proceeds of which are to be invested in bonds and stocks of the United States, or stocks of this state, and are to become a permanent endowment for the purpose of maintaining an agricultural college in the State of West Virginia, upon conditions recited in said acts :

And Whereas, the Legislature of the State of West Virginia, did, on the third day of October, eighteen hundred and sixty-three, pass an act accepting the said donation, and the said land warrants having been received by the governor, and by him sold and converted into current funds of the United States :

And Whereas, the board of trustees of Monongolia Academy, have by resolution, passed January, 9th, 1866, tendered to the State of West Virginia the buildings, property and funds of said Academy, including the property known as Woodburn Female Seminary, by resolution in the following words, to wit :

“Resolved, That this board tender to the legislature of West Virginia, all the real and personal effects held as the property of Monongolia Academy, including the property known as ‘Woodburn Female Seminary.’ amounting as a whole to the following estimated value, viz :

“Woodburn Female Seminary,	-	-	-	-	-	\$25,000
Monongolia Academy and dwelling,	-	-	-	-	-	15,000
Cash, bonds, bank stock, &c.,	-	-	-	-	-	10,000
Library and other personal property,	-	-	-	-	-	1,000

Amounting to - - - - - \$51,000

To be absolutely held and used by the State of West Virginia, on the express condition that the contemplated agricultural college be located permanently at or near Morgantown, and that the funds and real estate hereby tendered to be used solely for the benefit of said college,” therefore,

Be it enacted by the Legislature of West Virginia,—

§ 1. That the funds derived from the sale of the United States land warrants donated to this state for the purpose of endowing an agricultural college, be invested by the governor in a loan, or public stock of the United States, for the use and benefit of a college to be called the “Agricultural College of West Virginia,” endowed as aforesaid, and to be further established, regulated and maintained, according to a plan hereinafter provided for.

§ 2. That this state hereby accepts the tender of the board of trustees of Monongolia Academy; and that said college shall be located at or near Morgantown, in the county of Monongolia, and that the interest and dividends accruing from the fund donated by congress be appropriated to aid the establishment of said college.

§ 3. That the governor of this state shall, within thirty days after the passage of this act, appoint eleven suitable persons, one from each senatorial district, who shall constitute a board of visitors for said college, and who shall have a common seal; any three of whom may constitute a quorum for the transaction of ordinary business; but for making arrangements for the erection of buildings or the permanent alteration of present buildings, as well as the appointment or removal from office of professors, the concurrence of a majority of the board shall be required.

§ 4. When the said board hereby constituted, shall have served one year, two of their number, (to be determined by lot,) shall vacate their positions, and two others, on each succeeding year, shall do the same, and the remaining nine shall annually elect from the senatorial districts vacated, two new members of the board, who shall be approved and commissioned by the governor, in case of death, removal, or refusal to act, any three members of said board may proceed to call the rest of the board together to fill such vacancy.

§ 5. That it shall be the duty of said visitors, on or before the first Wednesday of April next, and on the first Wednesday in July annually thereafter, or at such time as they may designate, to meet at the college buildings now known as "Woodburn Female Seminary," and there establish such departments of education in literature, science, art and agriculture, as they may deem expedient, and as the funds under their control may warrant, and purchase such materials, implements and apparatus as may be requisite to proper instruction in all said branches of learning, so as to carry out the spirit of the act of congress aforesaid, approved July 2d, 1862. And they shall also appoint a superintendent, who shall have general supervision and control of the property and interests of said college during the vacation of said board.

§ 6. That said board shall establish and declare such rules and regulations and by-laws as they may deem necessary for the proper organization, tuition and good government of the said college, and the protection of the public property belonging to said college, as shall not be inconsistent with the laws of this state or of the United States; they shall appoint a treasurer, taking bond from him with ample security, conditioned for the faithful keeping and disbursing of such money herein or hereafter appropriated, and such other moneys as shall be allowed by said board to come into his hands from time to time; they shall also settle his accounts annually, or oftener if they think best; inspect all the public property of said college, and make a full report of the condition, income, expenditures and management of said college, to the governor annually; to be by him laid before the legislature.

§ 7. Said board shall have power to create a preparatory department to said college, and appoint any other professorship than heretofore mentioned, if the same be deemed essential; fix the salaries of the professors and of the superintendent, and remove them for good cause; but in cases of removal, the concurrence of a majority of the board shall be required, and the reasons

therefor shall be communicated in a full written statement thereof to the governor.

§ 8. Besides prescribing the general terms upon which students may be admitted, the course of their instruction, and the kind and duration of their services, (which duration shall not exceed five, nor be less than two years,) the said visitors are still further empowered to admit, as the regular students or cadets of said college, any number of young men, not fewer than one nor more than two, from each senatorial district in this state, and who shall not be less than sixteen, nor more than twenty-five years of age; and their admission to be made upon undoubted evidence of a fair moral character. But should no application be made from any of said senatorial districts, then the vacancies may be filled from the state at large.

§ 9. That the said students thus admitted shall be entitled to all the privileges and immunities, educational advantages and benefits of the college, free of charge for admission, tuition, books and stationery, and they shall constitute the public guard of the said college and the public property aforesaid. And whenever the said board shall certify to the governor that said college is ready to go into operation, and that students have been appointed and admitted as hereinbefore provided for, he shall forthwith forward to the superintendent of the said college a sufficient number of public arms and equipments, ordnance and munitions for the use of the college, to be kept in an arsenal of the said college, set apart for the purpose. And the professor and students of said college receiving instruction in military tactics and the art of war, shall be individually and collectively responsible for the preservation and safe keeping of said arms.

§ 10. All reasonable expenses incurred by said visitors in discharging the duties hereby imposed upon them, (not, however, including any wages or per diem compensation,) shall be allowed, and when admitted by the governor, shall be by him caused to be paid out of the treasury of the state, in like manner as all sums are drawn therefrom.

§ 11. That it shall be lawful for the said board to expend so much of the appropriations herein provided as may be proper for the procuring, repairing, or erecting such buildings as may be necessary for the accommodation of professors and students of said college: said board shall be and are hereby authorized to contract for and erect, at such time as they may deem proper and necessary, such additional buildings as may be needed; provided, however, that such expenditures shall not exceed the sum of one thousand dollars annually, for the first five years. They may expend also five thousand dollars of the funds received from the trustees of the Monongolia Academy, in purchasing landed estate for the use of the agricultural department of said institution, contiguous to said seminary.

§ 12. That the governor, board of visitors, and faculty may graduate any student of the college, found, (after proper examination,) duly qualified, and shall certify the same, by affixing the seal of the college to his diploma.

§ 13. That the board of visitors constituted as aforesaid, shall, on or before the first day of April next, accept and receive from the board of trustees of Monongolia Academy, a deed or deeds for the real estate and personal property so tendered to this state by their resolution aforesaid, to themselves, as the board of visitors of the Agricultural College of West Virginia, and their

successors forever, to be placed on record in the recorder's office of Monongolia county, and then deposited in the office of the secretary of the state.

§ 14. That the said board shall appoint a treasurer who shall, after giving bond, as before provided, receive from the trustees of the Monongolia Academy, all the funds and securities tendered by their resolution hereinbefore recited.

§ 15. This act shall at all times be subject to alteration or amendment by the legislature.

WISCONSIN.

AN ACT TO REORGANIZE AND ENLARGE THE UNIVERSITY OF WISCONSIN, AND TO AUTHORIZE THE COUNTY OF DANE TO ISSUE BONDS IN AID THEREOF.

(Approved April 12, 1866.)

SECTION 1. The object of the University of Wisconsin shall be to provide the means of acquiring a thorough knowledge of the various branches of learning connected with the scientific, industrial and professional pursuits, and to this end, it shall consist of the following colleges, to wit: 1st. The college of arts. 2d. The college of letters. 3d. Such professional and other colleges as, from time to time, may be added thereto or connected therewith.

§ 2. The college of arts shall embrace courses of instruction in the mathematical, physical and natural sciences, with their applications to the industrial arts, such as agriculture, mechanics and engineering, mining and metallurgy, manufactures, architecture and commerce, in such branches included in the college of letters as shall be necessary to a proper fitness of the pupils in the scientific and practical course for their chosen pursuits, and in military tactics; and as soon as the income of the university will allow, in such order as the wants of the public shall seem to require, the said courses in the sciences and their application to the practical arts, shall be expanded into distinct colleges of the university, each with its own faculty and appropriate title.

§ 3. The college of letters shall be coexistent with the college of arts, and shall embrace a liberal course of instruction in language, literature and philosophy, together with such courses or parts of courses in the college of arts, as the authorities of the university shall prescribe.

§ 4. The university, in all its departments and colleges, shall be open alike to male and female students; and all able-bodied male students of the university, in whatever college, shall receive instruction and discipline in military tactics, the requisite arms for which shall be furnished by the State.

§ 5. The government of the university shall vest in a board of regents, to consist of fifteen members, to be appointed by the governor, two from each congressional district in the State, and three from the State at large. At the first appointment, which shall be within sixty days after the passage of this act, five shall be commissioned for one year, five for two years, and five for three years. Thereafter the full term of office shall be three years from the first Monday in February in the year in which they were appointed, unless sooner removed by the governor.

§ 6. The said board of regents shall succeed to the custody of the books, records, buildings, and all other property of the university; and the present board of regents shall be dissolved immediately upon the organization of the board herein provided for; *provided*, that all contracts legally made, and at that time binding upon the board thus dissolved, shall be assumed and discharged by their successors.

§ 7. The regents and their successors in office shall constitute a body corporate, with the name and style of "the Regents of the University of Wisconsin," with the right as such of suing and being sued, and of contracting and being contracted with, of making and using a common seal, and altering the same at pleasure. They shall have power, and it shall be their duty to enact laws for the government of the university in all its branches; to elect a president of the university, and the requisite number of professors, instructors, officers and employees, and to fix their salaries, also the term of office of each, and to determine the moral and educational qualifications of applicants for admission to the various courses of instruction; *provided*, that no instruction, either sectarian in religion, or partisan in politics, shall ever be allowed in any department of the university, and no sectarian or partisan test shall ever be allowed or exercised in the appointment of regents, or in the election of professors, teachers, or other officers of the university, or in the admission of students thereto, or for any purpose whatever.

§ 8. For the time being, an admission fee and rates of tuition, such as the board of regents shall deem expedient, may be required of each pupil, except as hereinafter provided; and as soon as the income of the university will permit, admission and tuition shall be free to all residents of the State; and it shall be the duty of the regents, according to population, to so apportion the representation of students, that all portions of the State shall enjoy equal privileges therein.

§ 9. One suitably qualified pupil from each assembly district, to be nominated by the representative of such district in the legislature of the State, who, other things being equal, shall prefer an orphan of a soldier who has died in defense of his country, shall be at once and always entitled to free tuition in all the colleges of the university.

§ 10. The president of the university shall be president of the several faculties and the executive head of the institution, in all its departments. As such, he shall have authority, subject to the board of regents, to give general direction to the practical affairs and scientific investigations of the several colleges, and in the recess of the board of regents, to remove any employee or subordinate officer, not a member of the faculty, and to supply, for the time, any vacancies thus created; and so long as the interests of the institution require it, he shall be charged with the duties of one of the professorships. The secretary of state shall be secretary of the board of regents, and shall keep a faithful record of all the transactions of the board of regents, and perform such duties as they shall impose. The state treasurer shall be the treasurer of the board of regents, and perform all the duties of such office.

§ 11. The immediate government of the several colleges shall be intrusted to their respective faculties; but the regents shall have power to regulate the courses of instruction, and prescribe the authorities to be used in the several courses, and also to confer such degrees and grant such diplomas as are usual in universities, or as they shall deem appropriate.

§ 12. At the close of each fiscal year, the regents, through their president, shall make a report in detail to the governor, exhibiting the progress, condition and wants of each of the colleges embraced in the university, the course of study in each, the number of professors and students, the amount of receipts

and disbursements, together with the nature, costs and results of all important investigations and experiments, and such other information as they may deem important; one copy of which shall be transmitted, free, by the secretary of state, to all colleges endowed under the provisions of the congressional act of July 2d, 1862, hereinbefore referred to, and also one copy to the secretary of the interior, as provided in said act.

§ 13. For the endowment and support of the university, there are hereby appropriated: 1st. The income of the university fund. 2d. The income of a fund to be derived from the sales of the two hundred and forty thousand acres of land granted by Congress to the State of Wisconsin, by virtue of an act approved July 2d, 1862, entitled "An Act donating land to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," which fund shall be designated as the agricultural college fund. 3d. All such contributions to the endowment fund as may be derived from public or private bounty. The entire income of all said funds shall be placed at the disposal of the board of regents, for the support of the aforesaid colleges of arts, of letters, and of such colleges as shall be established in the university, as provided in section two of this act; *provided*, that all means derivable from other public or from private bounty, shall be exclusively devoted to the specific object for which they shall have been designed by the grantor.

§ 14. Meetings of the board may be called in such manner as the regents shall determine, a majority of whom shall constitute a quorum for the transaction of business, but a less number may adjourn from time to time. No member of the board shall receive compensation for his services as such member, but each member shall be entitled to reimbursement, on the audit of the board, for his traveling and other necessary expenses while employed on the business of the board.

§ 15. The first meeting of the regents, the appointment of which is herein provided for, shall be held in the university edifice, on the last Wednesday of June, 1866, at which time the regents, when so convened, shall elect one of their number president of the board. The time for the annual election of president of the board of regents, as also the regular annual meeting, and such other meetings as may be required, shall be determined in the by-laws of the board. Immediately upon the organization of the board, it shall be their duty to make arrangements for securing, without expense to the State, or to the funds of the university, suitable lands in the immediate vicinity of the university, not less than two hundred acres, including the university grounds, for an experimental farm, and as nearly as possible thereafter, to make such improvements thereon as will render it available for experimental and instructional purposes, in connection with the agricultural course in the college of arts.

§ 16. To enable the board of regents to purchase lands in the vicinity of the university for an experimental farm, and to improve the same, the board of supervisors of Dane county are hereby authorized and empowered to issue the bonds of said county, bearing interest at the rate of seven per cent. per annum, interest payable annually, for the amount of forty thousand dollars, such bonds to be payable on or before the first day of January, A. D. 1886, at such place as may be determined by said board of supervisors. The bonds so issued shall be delivered to the board of regents of the university, who shall faithfully apply

the same, or the proceeds thereof, together with all contributions made for this specific purpose, to the purchase and improvement of the lands for such experimental farm. But if the said county of Dane, by its proper officers, shall not make provision for the issue and payment of said bonds as aforesaid within thirty days after the passage of this act, and if in such case the citizens of said county shall fail within days after the expiration of said first mentioned period of thirty days, to furnish guarantees satisfactory to the secretary of state, that the said amount of forty thousand dollars shall be placed at the disposal of the regents of the university, at the first meeting of the board, then this act shall be null and void.

§ 17. So much and such parts of chapter twenty-one of the revised statutes, and of any and all acts as contravene the provisions of this act, are hereby repealed.

§ 18. This act shall take effect and be in force from and after its passage.

AN ACT TO AUTHORIZE THE INVESTMENT OF UNIVERSITY FUND IN CERTAIN BONDS
OF DANE COUNTY.

(Approved March 26, 1867.)

SECTION 1. The commissioners of school and university lands are hereby authorized to invest a portion of the university fund, or of the agricultural college fund, or of both, in the bonds of the county of Dane, issued by said county and delivered to the regents of the university by virtue of chapter 114 of the general laws of 1866, entitled "An Act to reorganize and enlarge the University of Wisconsin, and to authorize the county of Dane to issue bonds in aid thereof."

§ 2. This act shall take effect and be in force from and after its passage.

SHEFFIELD SCIENTIFIC SCHOOL OF YALE COLLEGE.

NEW HAVEN, CONN.

HISTORY.

IN the year 1846, a "Department of Philosophy and Art" was instituted in Yale College, on the same general principles as the Departments of Law, Medicine and Theology. One design in this movement was to secure better opportunities of scientific instruction for chemists, agriculturists and other students who might or might not have been members of the Academical Department. A special "Analytical Laboratory" was soon opened for the instruction of these scholars. Six years later a class in Engineering was commenced. These classes soon became known as the "Yale Scientific School," and were the beginning of the present organization. In 1860, a liberal endowment was received from Joseph E. Sheffield, Esq., of New Haven, (amounting to upwards of \$100,000, and subsequently increased by further gifts of \$60,000) in consequence of which the name of "Sheffield Scientific School" was given to the establishment. The school, as enlarged and re-organized, was almost exactly such a college as was contemplated in the Act of Congress of July 2, 1862, so that the Legislature of Connecticut was led, almost unanimously, to bestow upon this department of Yale College the income of the fund derived from the sale of land scrip. The act directing this appropriation was approved June 24, 1863.

TRUSTEES.

The Trustees of the institution are the Corporation of Yale College, consisting of the President of the College and ten Clerical Fellows, the Governor, Lieutenant Governor, and six senior Senators of the State. The Governor, Lieutenant Governor, and three senior Senators, with the Secretary of the State Board of Education constitute the State Board of Visitors, and with the Secretary of the School, the Board for the appointment of State Students. The following persons compose the Board of Visitors in September 1867:—His Excellency James E. English, his Honor E. H. Hyde, Hon. George Beach, Hon. M. T. Granger, Hon. A. J. Gallup, and Rev. B. G. Northrup. The Secretary of the School is Professor D. C. Gilman. The President of Yale College and the thirteen professors of this department form a "Governing Board," responsible to the corporation.

SALE OF THE SCRIP.

The amount of the national land-grant conferred upon Connecticut was 180,000 acres. The scrip representing this endowment was sold by the Commissioner of the School Fund, in accordance with the directions of the Legislature, on terms approved by the Governor of the State, Hon. W. A. Buckingham.

The price which it brought was 75 cts. per acre, yielding a capital of 135,000 dollars. This was first invested in United States Ten-Forty bonds, bearing interest in gold at the rate of 5 per ct. per annum; but subsequently the Legislature directed that these securities should be sold and the proceeds invested, instead, in Connecticut State Bonds bearing interest at 6 per cent. in currency. The annual income from this fund is therefore \$8,100.

OTHER FUNDS AND PROPERTY.

The school is the owner of a spacious and commodious edifice provided by Mr. Sheffield, at a cost, including outfit, &c., of about \$100,000. It has invested funds, the gift of various parties, amounting to about \$70,000,—and has also large collections of books, apparatus, instruments, and specimens in Natural History. Besides its own peculiar property, the school as a department of Yale College enjoys the advantages of the Public Library of the University, the Peabody Museum of Natural History, the Yale School of the Fine Arts, and other costly and serviceable endowments, which could not be replaced for half a million of dollars.

EXPERIMENTAL FARM.

No effort has been made to purchase a farm for experiment or practice. The funds of the institution are at present quite inadequate to this outlay; and the instructors believe that many if not all the advantages looked for in such an investment may be secured by observation and experiment on private farms in the neighborhood of New Haven, without expending any considerable sum in the purchase and management of a school farm, beyond a piece of ground suitable for a botanical garden and for occasional experiments, which would be a welcome accession to the school.

MANUAL LABOR.

There has been no proposal to require manual labor of the students, nor would the suggestion meet with favor. Some of the students of their own accord take part in mechanical pursuits or other industrial occupations,—and there are abundant opportunities for physical exercise in the scientific excursions which are kept up through the summer, and also in the college gymnasium, and in boating, skating, etc.

MILITARY INSTRUCTION.

Thus far military instruction has been given by an annual course of lectures from a Prussian military officer, who was a Brigadier General in the recent war for the Union. He has expounded the principles of strategy and tactics, with diagrams and other means of illustration, in an interesting and profitable manner. The provisions for military instruction proposed by Congress in the act of July 26, 1836, are now under consideration by the authorities of Yale College, and their action may modify these existing arrangements.

PUBLIC LECTURES.

Courses of public lectures have been given the last two years to mechanics in Sheffield Hall, and to farmers assembled in different parts of the State.

TUITION AND FREE SCHOLARSHIPS.

The charge for tuition is \$125 per year, payable \$45 at the beginning of the first and second term, and \$35 at the beginning of the third term. The special student in Chemistry is charged an addition of \$75 per annum for chemicals and the use of apparatus, and must supply himself with certain articles at a cost of five or ten dollars per term.

Forty free scholarships, open only to citizens of Connecticut, have been established by the State, and more than half of them are already occupied. If more applicants should appear than there are vacancies, the preference is to be given to those who have become orphans because their fathers served in the army or navy of the U. S., and next, to those who need pecuniary assistance; it being understood that all applicants must be fitting themselves for industrial occupations. The appointments are moreover to be distributed among the several counties in proportion to their population.

LODGING AND BOARD.

The school owns but one building, (known as "Sheffield Hall," the gift of Mr. Joseph E. Sheffield,) which is devoted to the necessary rooms for instruction, laboratories, museums, library, &c.

The students lodge and board in private houses. Some public provision to lessen the cost of living; for example a good dormitory, and a public boarding house conducted by the students with the co-operation of the faculty, are both most desirable.

ADMISSION.

All who enter the Sheffield School must be at least sixteen years of age, and must have mastered Algebra, Geometry, and Trigonometry,—besides what are called "the higher English branches." The entrance examinations on these studies are strict, as they are not pursued in the school, and are essential to successful progress. The regular examination is at the close of the third term and the beginning of the first term, (eight weeks after commencement.)

REGULAR COURSES OF STUDY.

The regular courses of study occupy three years, each year having three terms, two of fourteen and one of twelve weeks. During the first or Freshman year, the entire class is taught in the same studies, which are partly mathematical, partly scientific, and partly linguistic,—the object being to lay such a foundation of scholastic discipline as will be useful in any special department of study. During the second and third years, the students group themselves in seven sections, the professional character of which is clearly indicated by the titles, viz:—

1. CHEMISTRY AND MINERALOGY.
2. CIVIL ENGINEERING.
3. MECHANICS.
4. MINING AND METALLURGY.
5. AGRICULTURE.
6. NATURAL HISTORY AND GEOLOGY.
7. SELECT COURSE OF SCIENTIFIC AND LITERARY STUDIES.

In all these sections attention is paid to the French and German languages. Examinations are held at the close of every term; and once a year there is an examination in writing on the studies of the year. These courses lead to the Degree of "Bachelor of Philosophy," conferred by Yale College. The Degree of "Civil Engineer" is conferred on students who pursue an advanced course of engineering, and that of "Doctor of Philosophy" on those who study for two years after having attained to a Bachelor's Degree in Arts, Philosophy and Science, and who pass a successful examination in higher departments of science.

PARTIAL COURSES.

Students qualified to pursue advanced courses of instruction in Chemistry, Practical Astronomy, Zoölogy, and other branches taught in the institution are admitted to partial and selected courses adapted to their special wants. One object of this arrangement is to aid young men to qualify themselves to become Professors, Teachers and independent investigators in various departments of natural science. There is also a "shorter course" in agriculture, definitely arranged and announced.

INSTRUCTORS.

The President of the institution is Rev. THEODORE D. WOOLSEY, D. D., LL.D. The Chairman of the Governing Board is Professor JAMES D. DANA; and the Professors and their departments are as follows:—

WILLIAM A. NORTON,	<i>Civil Engineering and Mathematics.</i>
JAMES D. DANA,	<i>Geology and Mineralogy.</i>
BENJAMIN SILLIMAN,	<i>General Chemistry.</i>
CHESTER S. LYMAN,	<i>Industrial Mechanics and Physics.</i>
WILLIAM D. WHITNEY,	<i>Modern Languages.</i>
GEORGE J. BRUSH,	<i>Mineralogy and Metallurgy.</i>
DANIEL C. GILMAN,	<i>Physical Geography.</i>
SAMUEL W. JOHNSON,	<i>Analytical and Agricultural Chemistry.</i>
WILLIAM H. BREWER,	<i>Agriculture.</i>
ALFRED P. ROCKWELL,	<i>Mining.</i>
DANIEL C. EATON,	<i>Botany.</i>
OTHNIEL C. MARSH,	<i>palæontology.</i>
ADDISON E. VERRILL,	<i>Zoölogy.</i>

The additional instructors in 1866-7, were:

MARK BAILEY,	<i>Elocution.</i>
LOUIS BAIL,	<i>Drawing and Designing.</i>
A. VON STEINWEHR,	<i>Military Science.</i>
JOHN AVERY,	<i>Physics, etc.,</i>
JAMES B. STONE,	<i>Mathematics.</i>
BEVERLY S. BURTON,	<i>Chemistry.</i>
CHARLES J. SHEFFIELD,	<i>Assaying.</i>

Some of the students are also required to attend lectures in the other departments of the University,—especially the lectures on Physics and Astronomy by Professor E. Loomis, on Human Anatomy and Physiology by Dr. L. J. Sanford, and on Mental and Moral Philosophy by Rev. Professor N. Porter.

MODES OF INSTRUCTION.

The instructors aim to impart Useful Knowledge by such methods as will secure Intellectual Discipline. The students being classified in more than twenty subdivisions, based at once on their purposes in life and on their scholastic attainments, are brought into close personal relations with the professors, who endeavor to inspire them with a love of study, rather than to incite them by a fear of discipline. At the same time, a rigid system of marks is kept up, and all who fall below a certain standard in scholarship, attendance or conduct, are subject to dismissal. In the Chemical and Zoological laboratories in Civil Engineering, and so far as possible in other branches, the students are trained to practical work with the necessary instruments and apparatus. Scientific excursions are maintained through the summer under the various professors, to promote the study of Geology, Mineralogy, Botany, Zoology, etc., and sometimes to examine important manufactories and public works. The drill by recitations is constant, but lectures, both formal and familiar, are introduced to quicken the mind and impart the most recent investigations.

APPARATUS OF INSTRUCTION.

The following is a summary statement of the material possessions of the school applicable to the purposes of instruction.

I. *Pertaining to Sheffield Hall.*

1. Laboratories in Chemistry, Metallurgy, Photography and Zoology. (A laboratory in Physics and Mechanics is still very much wanted.)
2. Metallurgical Museum of Ores, Furnace Products, etc., (an extensive and increasing collection.)
3. Agricultural Museum of Soils, Fertilizers, useful and injurious Insects, etc.
4. Astronomical Observatory, having a very good equatorial telescope, by Clarke & Son of Cambridge, a meridian circle, etc.
5. A library and reading room, containing books of reference and a selection of German, French, English, and American scientific journals.
6. A collection of models in Architecture, Civil Engineering and Mechanics, and of diagrams adapted to public lectures.
7. A collection of Maps and Charts, topographical, hydrographical, geological, etc.
8. The private mineralogical cabinet of Prof. Brush, the herbariums of Professors Eaton and Brewer, the collection of native birds of Professor Whitney, the astronomical instruments of Professor Lyman,—all freely accessible to qualified students.

II. *Pertaining to the University.*

1. The College Library, consisting of 47,000 volumes, and the Society Libraries, consisting of 26,000 volumes.
2. Two Reading Rooms, one containing the newspapers and literary journals of England and the United States;—the other, quarterlies and monthlies in various languages and departments of learning.
3. The Cabinet of Minerals and Fossils,—an extensive and well known collection.
4. The Collections in Natural History.

(These collections and the mineral cabinet will be removed to the Peabody Museum when it is built; a fund of \$150,000 having been given for this purpose by Geo. Peabody, Esq. of London.)

5. Apparatus in Physics and Chemistry, adapted to and employed in public lectures.
6. Collections of the Yale School of the Fine Arts.
7. Gymnasium for physical training.

NUMBER OF STUDENTS.

The number of students in 1865-6 was 92; in 1866-7 123; and at the commencement of the current year, 1867-8, 130.

BIBLIOGRAPHY.

The following pamphlets and articles illustrate the history of the Sheffield Scientific School of Yale College.

- 1846 and every subsequent year. Catalogues of Yale College.
 Memoir of Prof. J. P. Norton. *New Englander*, vol. x., 1852.
 Memorial of Prof. J. P. Norton. 12mo.
 Report of the Joint Standing Committee on Education in the General Assembly of Connecticut, (May Session, 1847,) on the establishment in Yale College of Professorships of Agriculture and the Arts. (Signed by Ephm. Williams, Chairman.)
1856. Scientific Schools in Europe, by D. C. Gilman. 11 pp. 8vo.
 (Printed also in Barnard's American Journal of Education.)
 Scientific Education the want of Connecticut, by D. C. Gilman. 8 pp. 8vo.
 (Printed also in the Conn. Agric. Soc. Trans.)
 Appeal in Behalf of the Yale Scientific School. 32 pp. 8vo.
 Private Proposal for Reorganizing the Scientific School of Yale College. (Foolscap sheet.)
 Proposed Plan for a School of Science in Yale College. 32 pp. 8vo.
 Plan of an Agricultural School, by J. A. Porter. 8 pp. 8vo.
 Plan of an Engineering School, by W. A. Norton. 4 pp. 8vo.
1856. Science and Scientific Schools. An Address before the Alumni of Yale College at Commencement in 1856, by Prof. J. D. Dana.
1860. Agricultural Lectures at Yale College. Reported by H. S. Olcott. 12mo.
 Regulations of the Scientific School of Yale College, (several editions in successive years.) 4 pp. 8vo.
1863. Statement respecting the Sheffield Scientific School, laid before members of the Legislature of Connecticut. 4 pp. 8vo.
1864. Prospectus of the Sheffield Scientific School. 4 pp. 8vo.
1865. Circular of the Sheffield Scientific School. 4 pp. 8vo.
 Circular respecting a Course in Agriculture. 4 pp. 4to.
1866. First Annual Report of the State Visitors of the Sheffield Scientific School. 40 pp. 8vo.
1867. Second Annual Report of the Sheffield Scientific School. 64 pp. 8vo.
 Acts of Congress and of the Connecticut Legislature, respecting the national grant. 4 pp. 8vo.
 On the Relations of Scientific Education to Industrial Pursuits, by Prof. C. S. Lyman, an Address at the 21st Anniversary of the Sheffield Scientific School. pp. 8vo.

COURSES OF STUDY.

I.—REGULAR COURSES EXTENDING THROUGH THREE YEARS, AND LEADING TO THE DEGREE OF BACHELOR OF PHILOSOPHY IN YALE COLLEGE.

ADMISSION.

Candidates for admission must be sixteen years of age or more—must bring testimonials of good character. They will then be required to pass an examination in the below-mentioned branches :

Algebra—Davies, as far as General Theory of Equations. *Geometry*—Davis's Legendre. *Plane Trigonometry*, including Analytical Trigonometry—Loomis or Davies. *The Elements of Natural Philosophy*—Loomis or Olmsted. *Arithmetic* (including the Metric system of weights and measures). *English Grammar*, *Geography*, and *the History of the United States*.

Some knowledge of the Latin language is also recommended.

FRESHMAN YEAR.

The Freshman class, preliminary to all the higher instructions of the school, pursues the following studies :

First Term.

Mathematics—Davies' Analytical Geometry. Spherical Trigonometry. *Physics*—Silliman's Principles. *English*—Exercises in Composition. *Chemistry*—Recitations and Laboratory Practice. *German*—Woodbury's Method and Reader.

Second Term.

English—Rhetoric. Practical Exercises in Elocution. *German*—Woodbury continued. Selections from approved authors. *Physics*—Silliman's Principles, and Academical Lectures. *Chemistry*—Recitations and Laboratory Practice. *Mathematics*—Descriptive Geometry and Geometrical Drawing.

Third Term.

English—Exercises in Composition. *German*—Selections. *Physics*—Silliman's Principles and Academical Lectures. *Mathematics*—Surveying. Principles of Perspective. *Botany*—Gray's Manual. *Drawing*—Free Hand Practice.

JUNIOR AND SENIOR YEARS.

In the last two years of the regular courses, the students, grouped in seven sections, pursue the following studies :

1.—CHEMISTRY AND MINERALOGY.

JUNIOR YEAR.

Inorganic Chemistry—Eliot & Storer's Manual, Recitations and Lectures. *Analytical Chemistry*—Fresenius. Recitations and Lectures. *Laboratory Practice*—Repetition of Experiments from Eliot & Storer's Manual. Systematic Qualitative Analysis. Use of the Blowpipe. Quantative Analysis. *Mineralogy*—Dana's System, Lectures and Practical Exercises. *Botany*—Gray's Manual, Excursions and Preparation of Herbarium. *Zoölogy*—Lectures and Excursions. *French and German* (see Select Course).

SENIOR YEAR.

General Chemistry—Academical and Medical Lectures. *Agricultural Chemistry and Physiology*—Lectures. *Laboratory Practice*—Quantitative Mineral Analysis. Assaying. Organic Analysis. Special Investigation for Graduating Thesis. *Mineralogy*—Identification of Species. *Metallurgy*—Lectures. *Geology* Dana's Manual. Recitations and Academical Lectures. *Human Anatomy and Physiology*—Academical Lectures. *Mechanics, Steam Engine and other Prime Movers*—Lectures. *French* (see Select Course).

2,—CIVIL ENGINEERING.

JUNIOR YEAR.

Mathematics—Descriptive Geometry, with applications. Shades, Shadows and Linear Perspective. Analytical Geometry of three dimensions. Differential and Integral Calculus. *Astronomy*—Theoretical Astronomy. Practical Problems. *French and German*. *Practical Surveying*—Triangulation, Surveying of a Harbor, etc. Topographical Surveying. *Drawing*—Isometrical, Topographical, Mechanical.

SENIOR YEAR.

Mechanics—Theoretical Mechanics. Applications of Calculus to Mechanics. Mechanics applied to Engineering. Principles of Mechanism. Thermo-dynamics. Theory of Steam Engine. Prime Movers. *Civil Engineering*—Strength and Stiffness of Materials. Bridge Construction. Stability of Arches. Stone-cutting, with graphical problems. Constitution and properties of Building Materials. Civil Engineering proper, or the Science of Construction. *Geology, French*—Selections. *Field Engineering and Surveying*—Location of Roads. Laying out Curves. Geodesy. *Designing*—Designing of Bridges and other Structures. *Drawing*—Architectural and Structural.

3,—MECHANICAL ENGINEERING.

JUNIOR YEAR.

French and German—(see Select Course). Descriptive Geometry, with Applications. Analytical Geometry of Three Dimensions. Elementary Mechanics. Principles of Mechanism. Differential and Integral Calculus. Metallurgy. Shades, Shadows, and Linear Perspective. Isometrical Projection. Elements of Mechanical Drawing and Principles of Construction. Shading and Tinting, and drawing from patterns.

SENIOR YEAR.

French and German (see Select Course). *Analytical Mechanics*—Strength of Materials. Thermo-dynamics. Theory and Construction of the Steam Engine. Prime Movers. Theory of Machines. Mill work. Examination of Machinery. Mechanical Construction. Machine shop Practice. Architectural Drawing. Drawing from actual Machines. Designs of Machines.

4,—MINING AND METALLURGY.

JUNIOR YEAR.

French and German (see Select Course). *Mechanics*—Peck's Elements. Principles of Mechanism. Theory of Steam Engine. *Mathematics*—Mining Surveying—Shades, Shadows and Linear Perspective. Isometrical Projection. *Civil Engineering*—Strength of Materials. Stability of Arches. Higher and Topographical Surveying. *Geology*—Dana. *Drawing*—Mechanical and Topographical.

SENIOR YEAR.

French (see Select Course). *Mining*—Lectures. *General and Special Metallurgy*—Lectures. *General Chemistry*—Miller. *Chemical Analysis*—Fresenius. Recitations and Lectures. *Laboratory Practice*—Qualitative and Quantitative Analysis. Use of the Blowpipe. Assaying. *Mineralogy*—Lectures and Practical Exercises. *Zoölogy*—Lectures. *Mechanics*—Application to Engineering. *Drawing*,

5,—AGRICULTURE.

JUNIOR YEAR.

Agricultural Chemistry and Physiology—Structure and Physiology of Plants; Water, Atmosphere, and Soil in their relations to Vegetable Production, Improvement of the Soil by Chemical and Mechanical means. Domestic Animals; the chemical relations of their Food, Digestion, Respiration, Assimilation and Excretions; Milk, Butter, Cheese, Flesh, and Wool as Agricultural Products. Lectures. *Experimental and Analytical Chemistry*—Laboratory Practice. *Meteorology*—Academical Lectures. *Physical Geography*—Lectures. *Zoölogy*—Lectures. *Drawing*—Free-hand practice. *French and German*—Continued. *Excursions*—Botanical, Zoölogical, etc.

SENIOR YEAR.

Agriculture—The staple crops of the United States, their varieties, cultivation, management, and preparation for market. The Care, Breeding and Raising of Domestic Animals. Lectures and Recitations. *Experimental Chemistry*—Laboratory practice. *Agricultural Zoölogy*—Natural History of Domestic Animals; Insects useful and injurious to Vegetation. Lectures. *Human Anatomy and Physiology*—Lectures. *Geology*—Lectures and Recitations. *Rural Economy*, both American and Foreign. Lectures. *French and German*, continued. *Excursions*—Botanical, Zoölogical, etc.

6,—NATURAL HISTORY AND GEOLOGY.

JUNIOR YEAR.

First Term.

Zoölogy—Daily Laboratory instruction; Zoölogical Excursions. *Botany*—Gray's First Lessons. *Chemistry*—Academical Lectures. *French and German*—Selections.

Second Term.

Zoölogy and Paleontology—Laboratory Practice, Lectures. *Physical Geography*—Lectures and Recitations. *Chemistry*—Laboratory Practice. *French and German*, continued.

Third Term.

Zoölogy and Paleontology—Laboratory Practice, Lectures, Excursions (land and marine). *Botany*—Gray's Manual; Excursions. *Mineralogy*—Dana, Lectures and Practical Exercises. *French*, continued. *Drawing*—Free Hand Practice.

SENIOR YEAR.

First Term.

Zoölogy and Paleontology—Laboratory Practice, Lectures, Excursions. *Geology*—Dana's Manual. Excursions. *Meteorology*—Academical Lectures. *French*—Selections.

Second Term.

Zoölogy and Paleontology—Continued. *Botany*—Lectures on special subjects. *Geology*—Dana, Recitations and Lectures. *Anatomy and Physiology*—Academical Lectures. *French*—Selections.

Third Term.

Zoölogy and Paleontology—Continued, with Excursions. *Photography*—Practical Instruction.

7.—SELECT COURSE IN SCIENCE AND LITERATURE.

JUNIOR YEAR.

MODERN LANGUAGES.—*French and German*, continued. English Composition and Literature.

MATHEMATICS.—Peck's Mechanics, Norton's Astronomy.

NATURAL SCIENCE.—*Agricultural Chemistry*—Lectures. *Zoölogy*—Lectures and Excursions. *Botany*—Lectures and Excursions. *Mineralogy*—Lectures. *Physical Geography*—Lectures and Recitations.

HISTORY.—Recitations.

DRAWING.—Free Hand, and Architectural.

SENIOR YEAR.

LANGUAGE.—*French or German*, continued. Lectures on Language and Linguistic Ethnology. Compositions.

NATURAL SCIENCE.—*Botany and Zoölogy*, continued. *Geology*—Recitations and Lectures. *Meteorology*—Lectures. *Human Anatomy and Physiology*—Lectures. *Astronomy*—Lectures.

PHILOSOPHY AND HISTORY.—Lectures and recitations, in *History and Political Philosophy, International Law, Political Economy, Ethics and Metaphysics*.

II.—PARTIAL COURSES LEADING TO NO DEGREES.

A partial course in Agriculture, occupying seven months in the winter, is arranged for the convenience of those who cannot pursue a longer course of study.

Special students desirous to become proficient in some branch of Chemistry are also received in the Chemical Laboratory.

In Natural History arrangements are also made for the instruction of special students, not candidates for degrees. The same is true in Practical Astronomy. No formal examinations are required for admission to these advantages, but they are only offered to young men who are able and disposed to be faithful in the pursuit of the courses they select.

III.—HIGHER COURSES LEADING TO THE DEGREE OF DOCTOR OF PHILOSOPHY OR OF CIVIL ENGINEER IN YALE COLLEGE.

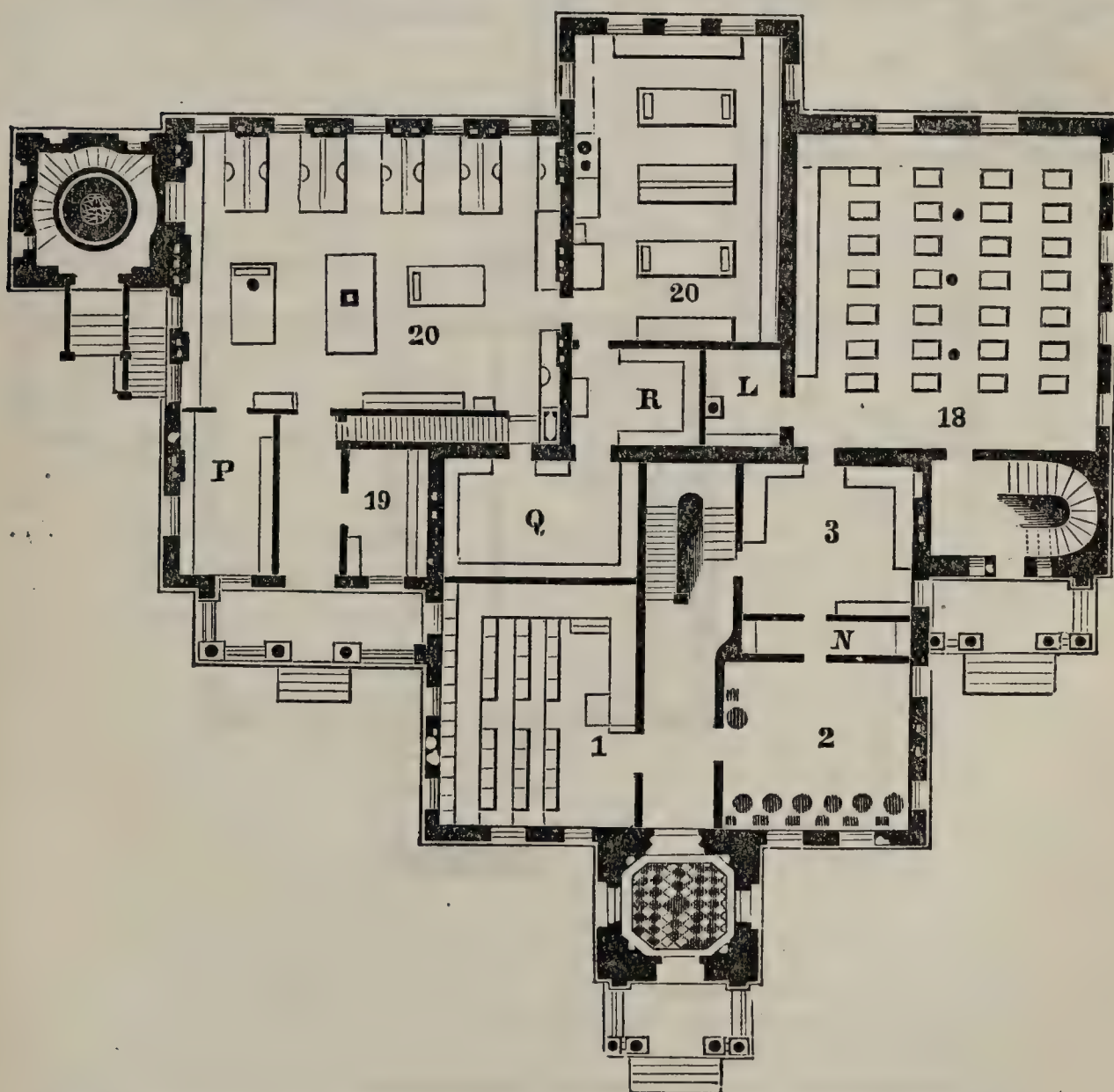
A higher course in Civil Engineering is arranged to follow the regular three years' course, and those who pursue it faithfully may receive the degree of Civil Engineer. (C. E.)

Candidates for the Degree of Ph. Dr. must have taken already a Bachelor's Degree, and must pursue in this College, a course of two years' instruction in the higher studies of at least three departments of science, terminating with a satisfactory examination.

PLANS AND DESCRIPTION OF SHEFFIELD HALL, OF THE SHEFFIELD SCIENTIFIC SCHOOL, YALE COLLEGE, NEW HAVEN, CONN.

Sheffield Hall is situated in Grove street, fronting College street, nearly a quarter of a mile north of the College square. It is built of stone and brick covered with stucco, and consists of a principal three story structure, and two wings (each of two stories,) now connected in the rear by another three story building. There are three public entrances on Grove street, of which the central one is the chief, leading to all portions of the building; the eastern door leads to the principal room of the Engineering Class and to the Metallurgical Museum above it; and the western door leads to the Chemical Laboratory.

There are two projecting towers—one in front, at the main entrance, and one at the northwest corner of the building. The principal tower in front is ninety feet high and sixteen feet square. In the second and third stories are studies for two of the professors. Above these rooms is the belfry-clock with its four dials, and surmounting the structure is a revolving turret in which the equatorial telescope is placed.



No. 1, Recitation-room, in Mathematics, Physics, etc.

" 2, " " " Engineering, etc.

" 3, Exhibition-room for engineering models, etc.

" 18, Drawing room for the Engineering and other classes.

" 19, Chemical Assistant's Office. 20, 20, Chemical Laboratory.

L, Closet.—P, Balance-room.—Q, Store room.—R, Chemical reagent room.

The northwestern tower, sixteen feet square and fifty feet high, was built for the reception of a Meridian Circle.

The extreme length of the edifice from the western tower to the east side is 117 feet; and the extreme depth is 112 feet. The three cuts which are given herewith exhibit the arrangement of rooms on each of the three stories. The basement, which is not here represented, contains a Janitor's apartment, and a metallurgical laboratory, in addition to the hot-air furnaces, store rooms, etc.

The Observatory occupies the two towers, each sixteen feet square, recently added to the edifice. In one of these is mounted an EQUATORIAL TELESCOPE; in the other, a MERIDIAN CIRCLE, with a SIDEREAL CLOCK; both telescope and circle being the recent gifts of Mr. Sheffield.

PLAN OF THE SECOND STORY.



No. 4, Study—Prof. of Agriculture.

" 5, Recitation-room in Physical Geography, etc.

" 6, Study—Professor of Mining.

" 7, Recitation-room in Modern Languages, Mechanics, etc.

" 9, Metallurgical Museum.

" 10, Agricultural Lecture-room.

" 11, Chemical Lecture-room.

" 12, Private Chemical Laboratory.

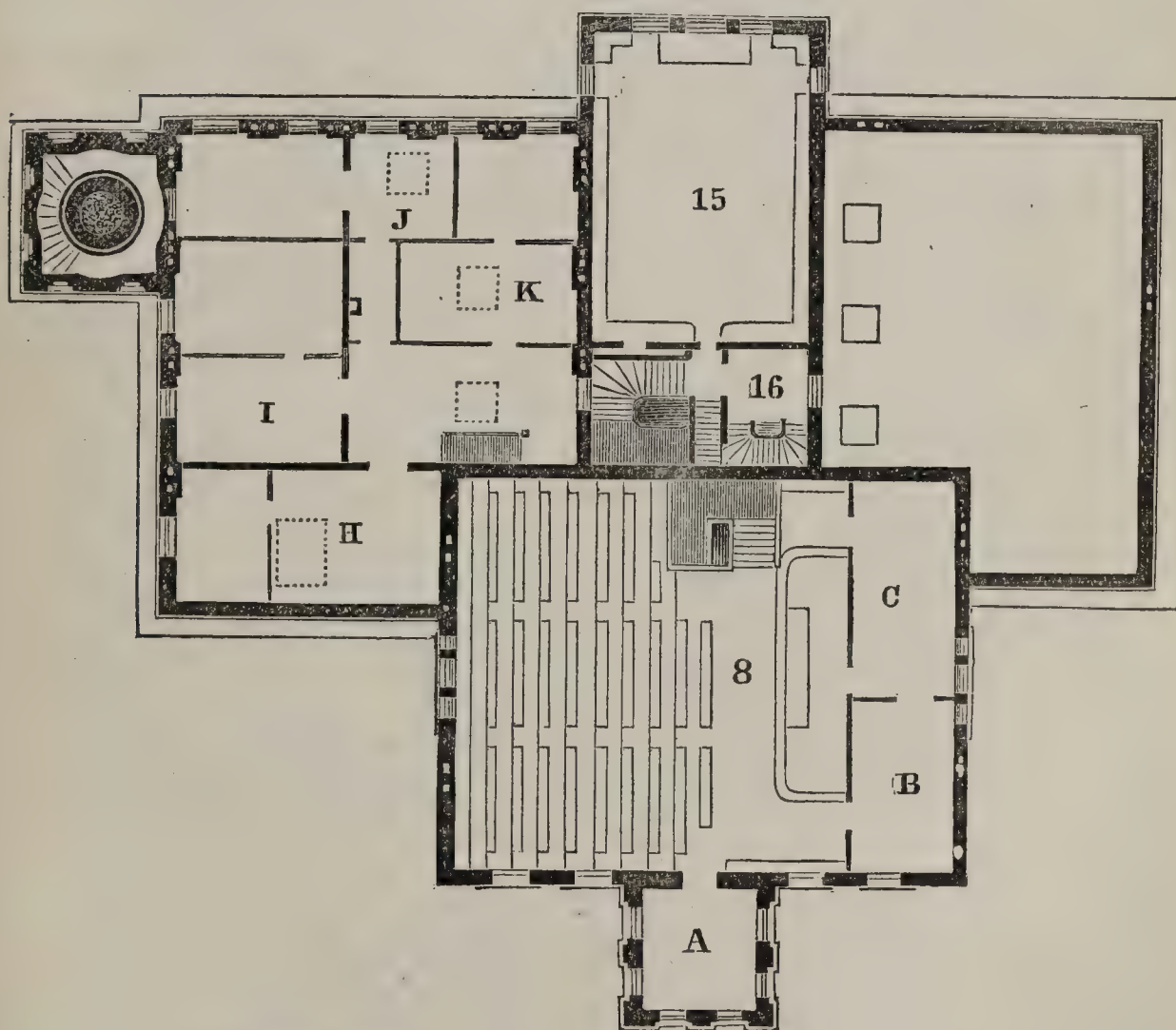
" 13, Study—Professor of Mineralogy and Metallurgy.

G, Study—Professor of Analytical and Agricultural Chemistry.

The Equatorial Telescope, ordered of Messrs. Alvan Clark & Sons, of Cambridgeport, in November, 1865, was, early in October last, mounted in the revolving turret at the top of the front tower, some eighty feet above the ground, where it commands a good horizon. It is supported by a freestone pier, six feet in height, which stands on a massive floor of masonry arched in from the side walls, just above the tower clock. Though it thus partakes of whatever motion the tower itself is subject to, from winds and other causes, no noticeable inconvenience has been experienced, or is anticipated, from this source. The floor of the room, which is of wood, immediately above the stone floor, rests only in the outer walls, and does not touch the pier.

The object-glass has a clear aperture of nine inches, and is nine feet ten inches in focal length. The tube, made of pine handsomely finished, and ten inches in diameter, is at once stiff and light. Seven Huygenian eye-pieces give powers ranging from 40 to 620. All but one of these fit also a diagonal eye-tube containing a prismatic reflector. Another diagonal reflector—the first surface of an acute prism of glass—is used in observing the sun, the greater part

PLAN OF THE THIRD STORY.



No. 8, Public Lecture-room.

" 15, Library.

" 16, Librarian's room.

A, Study—Professor of Industrial Mechanics and Physics.

B and C, Apparatus-rooms.

H, Photographic Laboratory.

I, J, Dormitories.

K, Store-room.

of whose light and heat is transmitted, while the image formed by the reflected rays is viewed without inconvenience, with the full aperture of the telescope.

The equatorial mounting is the German, or Fraunhofer's—the declination axis carrying a circle of twelve inches diameter, graduated on silver so as to read by two verniers to 10", and the polar axis carrying an hour circle of nine inches diameter, graduated to minutes of time, and reading by two verniers to five seconds.

Beneath the polar axis, in the curve of the U-shaped iron piece by which that axis is supported, is placed the driving clock. Its going is regulated by a half-second pendulum, and the intermittent motion of the scape wheel is changed into a smooth and equable motion for the telescope by the simple and ingenious device known as "Bond's Spring-Governor."

The performance of the telescope accords with the reputation of its makers. On favorable nights, it shows easily such test objects as δ Cygni, the companion of Sirius, the 6th star in the Trapezium of Orion, and, with more difficulty, γ_2 Andromedæ. The second and third have been seen with the aperture reduced to five inches.

There is used with the telescope a bi-filar position-micrometer, with four eye-pieces, by Dollond.

A very simple observing chair enables the observer to change his position, quickly and easily, to any height required, without leaving his seat.

The revolving turret, resembling in form that of a "Monitor," rests, by a circular rail at its base, on eight grooved iron wheels, nine inches in diameter, the steel journals of which run in boxes of Babbitt's metal. It is turned by a crank, the pinion of which gears into a rack cast on the circular rail. The opening, three feet in width, extends entirely across, through the roof and sides, from base to base. It is closed by eight hinged shutters, so controlled by rods and levers as to be opened or shut with great facility.

The tower connected with the west wing was erected during the last summer, specially for the reception of the Meridian Circle purchased of the U. S. Government and formerly used in the East room of the Washington Observatory. This instrument was mounted in September on the massive granite piers, which came with it, and the bases of which are imbedded in the upper part of a shaft of solid masonry, thirty-six feet in height, nine in diameter at the base, and seven at the top. This shaft rises, independently of the building throughout, from a foundation ten feet below the surface of the ground, and is surrounded, at a few inches distance, by a double casing made of tarred felt and matched sheathing boards. It is thus well protected against sudden changes of temperature.

The Meridian Circle has a five-foot telescope, with an object glass of 3.8 inches aperture, and 58 inches focal length. It has three Ramsden eye-pieces. A diagonal eye-piece in addition has been ordered, for more conveniently observing objects at high altitudes. At the focus is a system of one horizontal, and eleven vertical, spider-lines, together with a micrometer thread movable in declination only. The mean equatorial interval of the vertical threads is 14s.167.

The axis, thirty inches in length, terminates in steel pivots two inches in diameter, and to opposite faces of its central cube are bolted the two conical frusta forming the tube of the telescope. This tube is so constructed at the

ends that the object-glass and eye-tube are readily interchangeable. On the axis, within the piers, are two circles forty inches in diameter. They are graduated on silver, the one to read by a vernier to single minutes, the other by six micrometer microscopes, to single seconds. Four of the microscopes are mounted at the corners, and two at intermediate points on the opposite sides, of a square alidade frame, which is carried by the axis, and held in position by adjusting screws connected with the pier. Attached also to the alidade is a spirit level. Suitable counterpoises prevent undue pressure of the pivots on the Y's. For finding the nadir point, and the level and collimation errors, a collimating eye-piece and vessel of mercury are used. There is also a striding level for the axis; an observing couch; and a reversing apparatus traversing the floor on rails between the piers.

This instrument, as originally constructed by Ertel & Sons, of Munich, had a thirty-inch circle at each extremity of the axis, outside of the piers. These were subsequently replaced by the present forty-inch circles on the axis inside of the piers, by Wm. J. Young, of Philadelphia, who made other minor alterations.

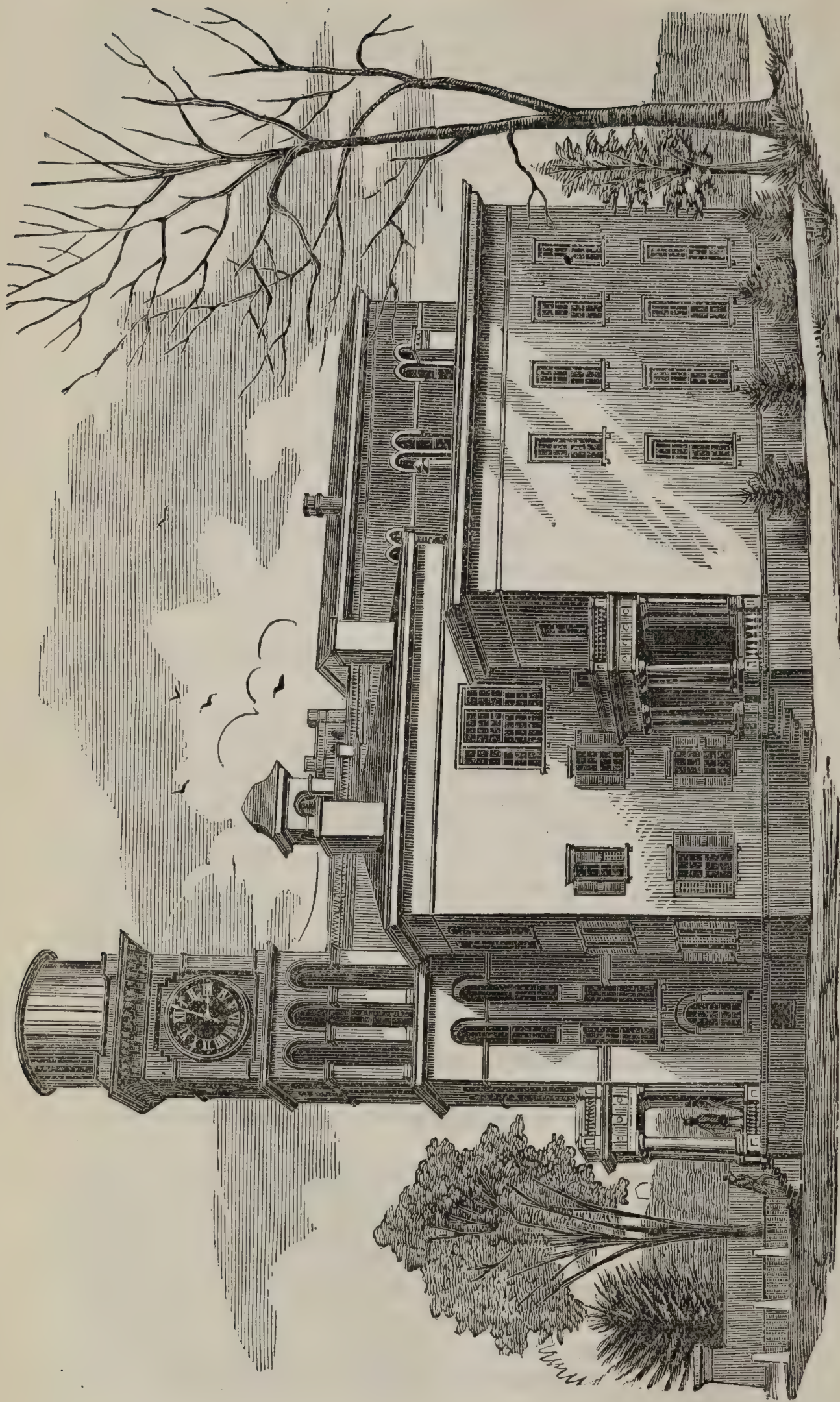
In the first and second volumes of the Washington Observations, this circle, in its original form, is fully described, and illustrated by plates. It has been put in adjustment, but not yet sufficiently used to test its performance.

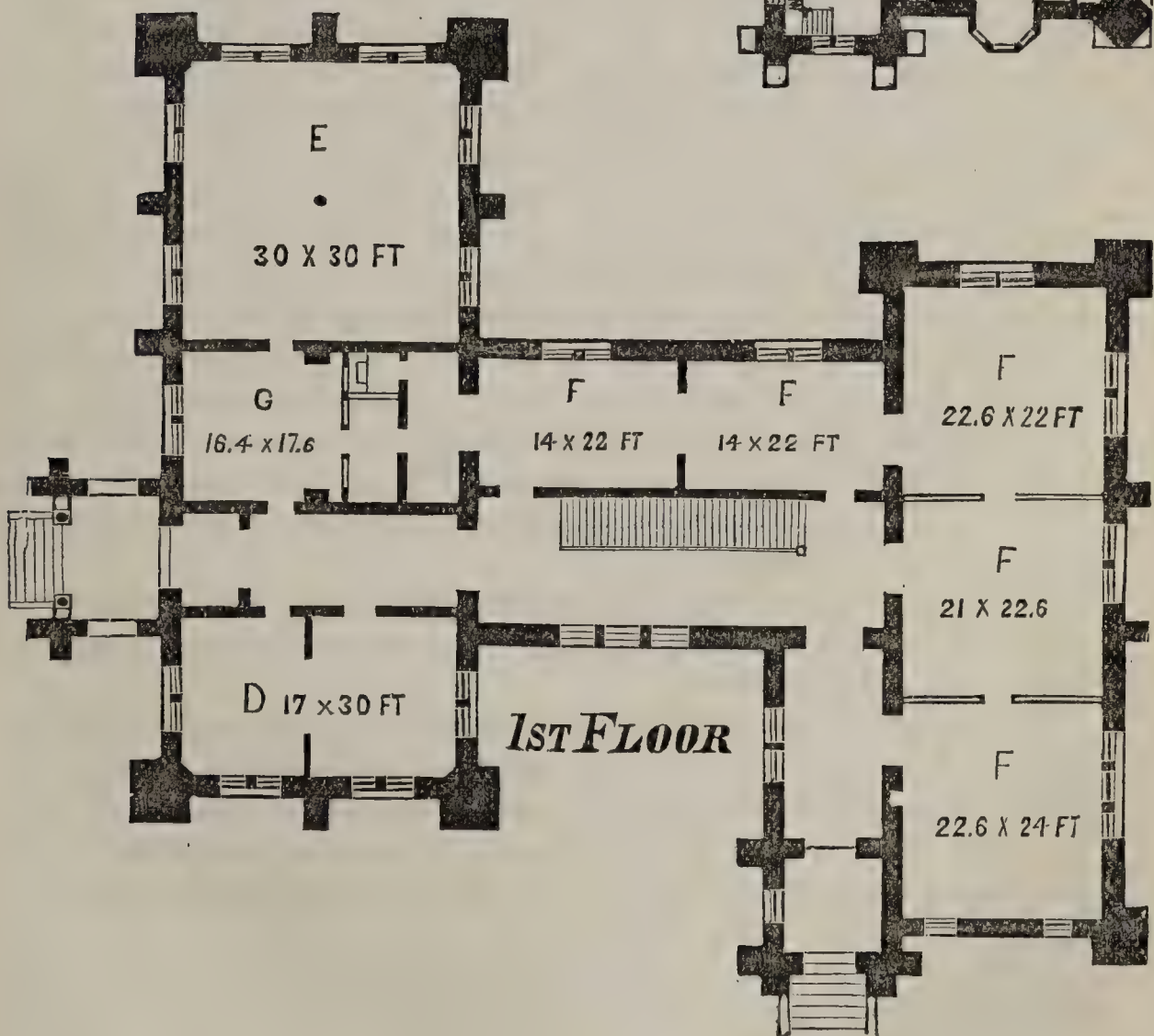
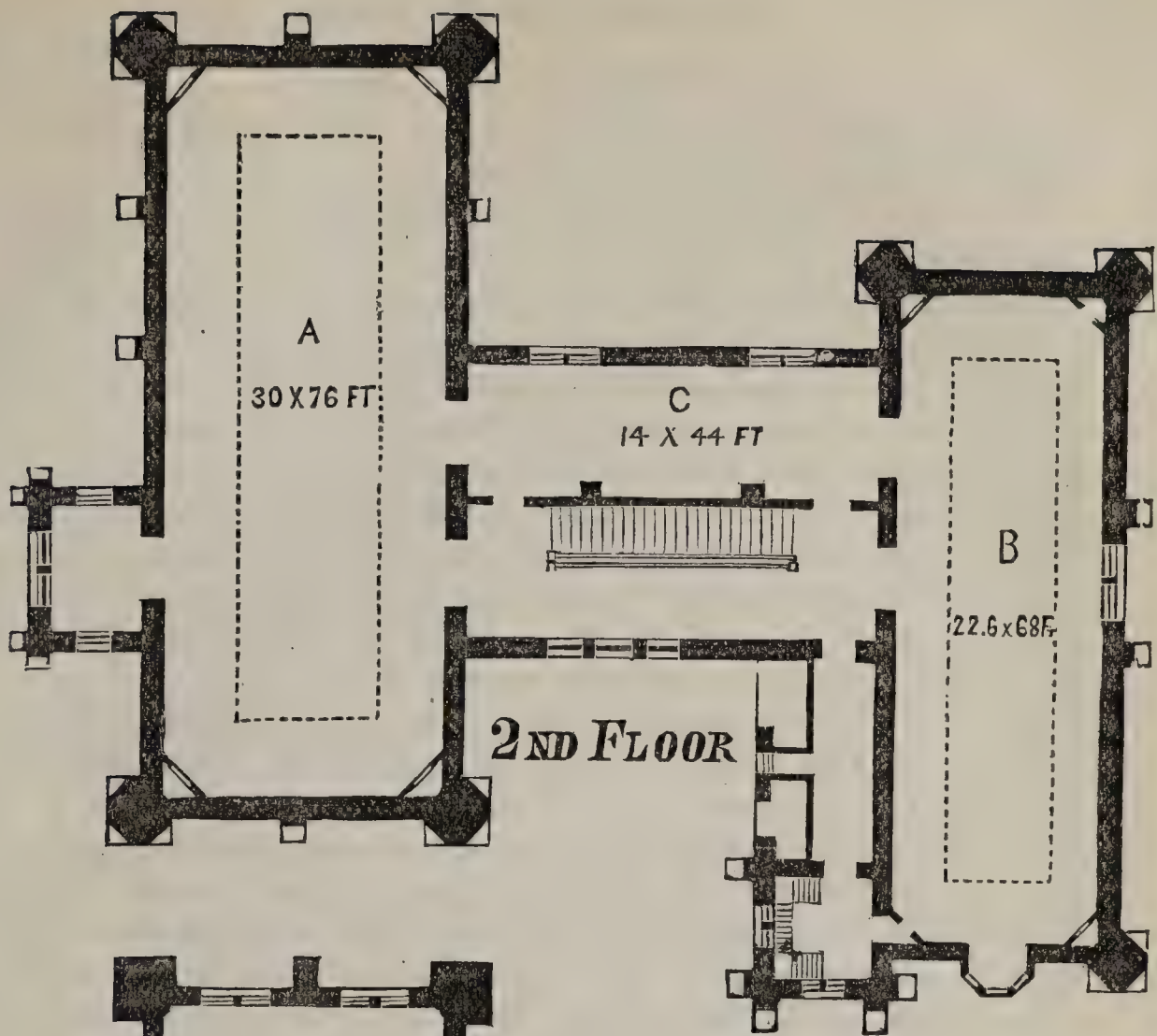
The circle-room has a meridional opening from side to side, twenty inches in width, with roof-shutters, which are opened or shut by a single motion of a lever. The side shutters are ordinary doors.

A Sidereal Clock, by Appleton, London, the gift of William Hillhouse, Esq., of New Haven, is attached to the west wall.

The observatory possesses also a Pistor & Martin's Patent Sextant. The private instruments referred to as used by students in Practical Astronomy are: a superior portable Telescope, by Clark & Sons, of $4\frac{3}{8}$ inches aperture and five feet focal length; a Transit Instrument with three-foot telescope, and twelve-inch circle reading by two verniers to $10''$; a Sidereal Clock and an Eight-day Sidereal Chronometer. The telescope of the transit instrument has an object-glass, by Fitz, of $2\frac{5}{8}$ inches aperture, and a micrometer, so constructed as to be used with equal facility at all angles of position, without danger of disturbing the fixed system of threads. With this micrometer, and the spirit-level attached to the alidade of the circle, this instrument is practically a Zenith Telescope, and is used as such in observations for latitude by Talcott's method. The eye-piece constantly used is a diagonal one giving a power of 200, a power warranted by the excellence of the object-glass. The instrument is mounted on a heavy iron stand, cast in one piece, which is supported by a brick pier, four feet in height, with its foundation of masonry extending several feet below the surface of the ground.

The tower clock was made by Messrs. E. Howard & Co., of Boston. It has a wooden pendulum rod eight feet in length, with a zinc compensation-tube below the bob, specially ordered for this clock. The bob is of cast iron, and about twice as heavy as those usually furnished by the makers. The rate has thus far proved to be nearly uniform and quite satisfactory. The clock is set anew to zero, whenever its error amounts to half a minute. This has occurred but twice since August last. The hours are struck on a fine toned bell of 675 lbs. weight, suspended in a separate bell-tower on the main roof, some twenty-five feet from the clock.





New Building erected in 1873.

The new building has a front of seventy-six feet on Prospect street, and a depth of eighty-four feet, standing back from the street, sixteen feet.

The plan is rectangular, and it has substantially five stories,—a basement of eleven feet in height, first, second, and third stories, each fourteen feet high in the clear, and an attic, or fourth story, nine and a half feet high in the clear.

The general plan of the interior arrangement of rooms is based on that of the first story, provision being made for a large lecture room in the rear part of this particular one, extending across the whole rear side of the building, and occupying nearly one-half of the story. This lecture room has a capacity for seating about four hundred and fifty persons. A hall sixteen feet wide from the front entrance communicates with this lecture room, and affords room for the main staircase to the upper stories. On each side of this hall there are two recitation rooms, one 12'.5" by 27'.5" and one 12'.11" by 26'.9", making four recitation rooms and a large lecture room on the first floor.

Under these four recitation rooms in the basement of the building there are two large rooms and one small room completely finished. These rooms are all suitable for recitation rooms, being well lighted, and having a height of 11 feet.

The rear basement, under the general lecture room, is occupied by a coal room, heating furnaces and boilers, janitor's room, and water-closets. The floor of this part of the basement is lower than the front part by four feet, to permit the floor of the lecture room above to drop down that much from the front.

The second and third stories are divided alike,—two large rooms of equal size in each over the lecture room, and four rooms on each story in the front.

The south side of the second story, consisting of three rooms, is devoted to Physics; the north, consisting of three rooms, to Civil Engineering. The small rooms in front are, for the present, appropriated to the Professors in those departments for study rooms, the middle rooms for apparatus and recitation rooms, and the rear and largest rooms for apparatus, lectures, and drawing-rooms.

The third floor is arranged in a similar way. The south side is devoted to Dynamic Engineering; the large rear room on the north side to Natural History, the middle room to Botany, and the front to the purposes of a private study.

The fourth story furnishes one large room (73' by 28') for instruction in instrumental drawing, and eleven small rooms to be occupied as private rooms for instructors, and for store-rooms.

The interior finish of the building is plainly executed in yellow pine, coated with oil and shellac. The staircase and wainscoting of the halls are composed of pine, ash, and black walnut.

The building is heated and ventilated by boilers in the basement which furnish steam to chambers or 'radiators' under the rooms to be heated; a current of cold air passing through conduits to the radiators is heated in its passage upward to the rooms by the steam heated 'radiators.' To furnish places of exit for the heated air, separate air conduits from all the rooms, provided with ventilators, pass up through the walls to the roof.

The larger lecture room and all the recitation rooms, except two, have ventilators opening into large conduits in the center of the building, which are kept heated by the smoke flues of the boilers, which are of cast-iron, and pass up through the middle of these large conduits or ventilating shafts. The building is thus not only thoroughly warmed, but most efficiently ventilated.

MASSACHUSETTS.

I. INSTITUTE OF TECHNOLOGY, BOSTON.

II. AGRICULTURAL COLLEGE, AMHERST, HAMPDEN COUNTY.

MASSACHUSETTS, by accepting the congressional offer, came into possession of 360,000 acres of land-scrip, the proceeds of which, by acts of the Legislature approved April 10, 1861, and April 29, 1863, are to be divided between two establishments, the Massachusetts Institute of Technology in Boston, and the Massachusetts Agricultural College at Amherst. Before giving an account of these two institutions, we will add a few data towards a historical development of scientific instruction in this State.

HISTORICAL DATA.

The gradual recognition of science, and its application to the industries of a State, in its institutions of learning, and means of general education, is seen in the history of Harvard College, and of public instruction in Massachusetts.

The earliest curriculum of Harvard College, in 1642, and for a half century afterwards, with little Latin, less Greek, and no science beyond Arithmetic and Geometry, is almost a transcript of the English Public School of that day, and its degrees, although given in name and mode (*pro more Academicarum in Anglica*) after those of Cambridge, representing, as could only be expected, a much smaller amount of attainment in the graduates. The attempts to modify the studies and increase the attainments in science, have been in the end more successful here than in the mother institutions. The earliest indication of a desire for change was manifested in the efforts to induce Comenius—the great originator and advocate of realistic instruction in Europe, and at that time in England on an invitation of persons in the government to devise a system of public instruction—to accept the presidency of the College in 1654, which he declined, preferring to go to Sweden on the invitation of Chancellor Oxenstiern.

The first suggestion of change in the appliances and methods of teaching was made by President Hoar, in 1672. Dr. Hoar was a graduate of the College in 1650, and up to that time trained in its studies and methods, but resided in England, from 1653 to 1672;—during which period, although a settled clergyman, he received the degree of Medicine from the University of Cambridge, was intimate with members of the Royal Society, and by his letter to Sir Robert Boyle, dated Cambridge, December 13, 1672, familiar with the ideas of scientific and industrial education set forth by Milton in his "*Tractate*"; by Hoole in his translation of the *Orbis Pictus* of Comenius; by Hartlib in his *Plan of a College of Husbandry*; by Sir William Petty in his *Ergastula*, or Trades' Colleges; by Cowley in his *College of Experimental Philosophy*, and by Webster in his *Examen*, or the introduction of science into the public schools and universities. Writing to Boyle, he remarks: "We still hope some help from our mother land, of which your honored self, Mr. A., and some others

have given pledge. * * A large, well-selected garden and orchard for planting ; an Ergastulum for mechanic fancies, and a laboratory chemical for those philosophers that by themselves would culture their understandings, are in our design, for the students to spend their times of recreation in ; for readings or notions only are but husky provender."

But these designs were nearly two centuries in advance of the aspirations of the corporators of either English or American colleges. In Harvard College a regular Professorship of Mathematics and Natural Philosophy was first instituted in 1727. The Professorship of Chemistry, and the first laboratory, were established in 1783. The site of a Botanic Garden was purchased by citizens of Boston in 1807, although the corporation, in 1784, applied to the Legislature for help in this direction to enable the College to accept the offer of the King of France "to furnish such garden with every species of seeds and plants, which might be requested, from his Royal Garden, at his expense." In 1805 the Professorship of Natural History was founded by the subscription of \$30,000 of a few citizens of Boston. In 1816 the Rumford Professorship of the Sciences as applied to the Arts, was endowed out of a bequest of Benjamin Thompson, of Woburn, Mass., (better known as Count Rumford of Bavaria,) "in order to teach by regular courses of academic and public lectures, accompanied with proper experiments, the utility of the physical and mathematical sciences for the improvement of the useful arts, and the extension of the industry, prosperity, happiness and well-being of society." In 1839 an Astronomical Observatory was commenced by a subscription of John Quincy Adams and others, and in 1848 munificently endowed by Edward B. Phillips, in the sum of \$100,000. In 1820 the Professorship of Mineralogy and Geology was established, and the cabinet of specimens began to assume magnitude and value. In 1846 the building of the Lawrence Scientific School was erected by Abbot Lawrence, who also endowed the Professorship of Civil Engineering and Geology, to a total amount, with his son's donation, of \$150,000. In 1859 the Museum of Comparative Zoölogy was established on the basis of an endowment of \$50,000 by William Gray, and \$100,000 by the State, and of subscriptions in the sum of \$71,125 by individuals, and the consecration of the genius and enthusiasm of Louis Agassiz to its inauguration, the value of which no amount of money can represent, and which has since secured over \$200,000 in money, and more than that in collections for the institution. In 1862, Samuel Hooper of Boston, gave \$50,000 to establish a School of Mines. In addition to the professorships and endowments of purely scientific instruction above specified, should be added the bequest of Benjamin Bussey in 1841, which is now about to become available to the college, and one-half of which, (estimated at \$300,000,) must be directed to a Manual Labor School. Although the recognition of science and its application to industry, and the increase of the agencies and resources of instruction in Harvard College have been slow, and mainly within the last twenty-five years, the institution is now manned and equipped to do its work in the most thorough and comprehensive manner.

In 1823 the Natural History Society of Boston was incorporated, and for its building, collections, and endowments, has received from the State and City, and from individuals, at least \$400,000.

In 1835, John Lowell, a native of Boston, provided, by his testamentary bequest written in Egypt, for the delivery of courses of public lectures in Boston, for

the reasons and objects, among others, specified as follows: "As the prosperity of my native land, New England, which is sterile and unproductive, must depend, first, on the moral qualities, and second, on the intelligence and information of its inhabitants, I am desirous of contributing toward this second object also; and I wish courses of lectures to be established on physics and chemistry, with their application to the arts; also on botany, zoölogy, geology, and mineralogy, connected with their particular utility to man." On this foundation, besides the annual delivery of extended courses of lectures by the most eminent men of science in this country and in Europe, a permanent School of Design and Drawing has been established; and special lectures are now delivered every year in connection with the Massachusetts Institute of Technology.

But any survey of the means of original investigation, or of special study in any department of science, would be imperfect which should not include the University Library at Cambridge, with its 104,000 volumes, the Boston Athenæum, with its 90,000 volumes, and the Boston City Library, with its 130,000 volumes, all of which, with their buildings and special endowments, cannot represent less than one million of dollars.

In view of these noble institutions and munificent endowments, and more than these, the rich experience and splendid attainments of the Professors already engaged in the work of scientific investigation and instruction in Cambridge and Boston, we can better appreciate, and sympathize with the recommendations of Gov. Andrew in his message to the Legislature, in January, 1863, on the disposition of the National land-grant. After having referred to the danger of dividing the grant among several institutions, he calls attention to the number of expert professors required in the various departments of applied science, and then goes on to say:

"If our Commonwealth is to retain her wonted place in noble works, we must seize, at the earliest opportunity, upon as many men of this character as may be found in the country, and at once organize our institution, to be a model for other States that may avail themselves of the grant from Congress. Not only a laudable State pride demands this, but the highest considerations of patriotism and philanthropy demand it.

The Act of Congress does not make provision sufficient for an Agricultural School of the highest class in each State. Nor would it be possible now to find, disconnected from our colleges and universities, as many men of high talent, and otherwise competent, as would be required to fill the chairs of one such school. But Massachusetts already has, in the projected Bussey Institution, an agricultural school, founded, though not yet in operation, with a large endowment, connected also with Harvard College and the Lawrence Scientific School. She can therefore, by securing the grant from Congress, combining with the Institute of Technology and the Zoölogical Museum, and working in harmony with the college, secure also for the agricultural student for whom she thus provides, not only the benefits of the national appropriation, but of the Bussey Institution and the means and instrumentalities of the Institute of Technology, as well as those accumulated at Cambridge. The benefits to our State, and to our country, and to mankind, which can be obtained by this co-operation, are of the highest character, and can be obtained in no other way. The details of the connection of the Bussey Institution with the Scientific School and the College, are not yet fully wrought out; but I apprehend that little difficulty would be found in connecting it also with the grant from Congress, if the gentlemen who may be intrusted by the State with the work, will approach it with the perception of the absolute necessity for husbanding our materials, both men and money, and concentrating all our efforts upon making an institution worthy of our age and of our people. Its summit must reach the highest level of modern science, and its heads must be those whom men

will recognize as capable of planning a great work, and of working out a great plan.

The fifth chapter of the Constitution of Massachusetts, celebrates the wisdom of our ancestors, who "so early as the year 1636, laid the foundation of Harvard College, in which University many persons of great eminence have, by the blessing of God, been initiated in those *Arts and Sciences* which qualify them for public employments both in Church and State," reciting that "the encouragement of arts and sciences, and all good literature, tends to the honor of God, the advantage of the Christian religion, and the great benefit of this, and the other United States of America." And it declares that it "shall be the duty of Legislatures and Magistrates, in all future periods of this Commonwealth, to cherish the interests of literature and the sciences, and all seminaries of them; especially the University at Cambridge, public schools, and grammar schools in the towns; to encourage private societies, and public institutions, rewards and immunities for the promotion of agriculture, arts, sciences, commerce, trades, manufactures and a natural history of the country."

I venture the opinion that the advantages presented by the various institutions which now cluster around the college, may be so combined with other institutions as to realize more fully in actual experiment the true idea of a University. I cannot doubt that the people of the Commonwealth have a right to those benefits; the prevention of all the waste of means, the weakening of resources, the repetitions of professorships, libraries, apparatus and other material, consequent on scattering instead of concentration. Model farms, and experimental culture in all the varieties of soil our lands present, as the wise and expert may hereafter advise, and also branches or subordinate schools, are not to be discouraged. Neither are the schools and colleges for academic study already provided or contemplated, nor any gifts or grants thereto, to be less favored in the future. Nor does unity of plan and co-operation in method, of necessity imply confinement of all the departments of an institution to one place. The object should be to centralize and economise means and power, while distributing and popularizing education and its fruits.

But, in order to fulfil the highest functions of a University adapted to the wants and development of modern society, to an intellectual and free people, its professorships, libraries and apparatus should be so combined and distributed as to include to faculties of Divinity, of Law, of Medicine, of Military instruction, of Letters and Natural Science, all of them, organized and represented in their highest perfection. The faculty of Divinity should have, as its basis, a strong corps of scholars versed in Hebrew literature and history, in ecclesiastic history, and in dogmatic theology, admitting as professors members of every church competent to teach. The teaching of the law school should include the civil law, comparative jurisprudence, political economy and diplomacy. The faculty of letters should combine the deepest scholars in ancient literature, including Sanscrit, and the other Oriental languages, as well as Greek and Latin; and in the antiquities proper, history in all its ramifications, the modern languages and their literature, philosophy in all its branches with its history. For the faculties of medicine and of natural sciences, should be combined mathematicians, astronomers, physicists, chemists, mineralogists, botanists, zoölogists, geologists, devoting themselves chiefly to the scientific pursuit of their study; and also men distinguished for their eminence in the application of the sciences to the useful arts, civil engineers, architects, mining engineers, military engineers, and agriculturists.

That we should continue to build on the foundation our fathers laid, endeavoring to make actual in the life of our society their ideal, I religiously believe. Let us plan to concentrate here the "gladsome light" of universal science. Let learning be illustrated by her most brilliant luminaries, and let the claims of every science be vindicated by its bravest champion. Two-thirds of an amount equal to the sum we annually, and wisely, expend in public and private instruction, would found professorships and furnish the fund which would give to Massachusetts a University worthy the dream of the fathers, the history of the State, and the capacity of her people."

After much discussion in the Legislature and the public press, the policy of concentration so eloquently set forth by Gov. Andrew, was rejected.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

B O S T O N .

HISTORY.

IN the years 1858-9 a number of gentlemen residing in and near Boston, interested in science and the practical and fine arts, conceived the idea of bringing into close proximity in one or more buildings to be erected for the purpose, the Museums and Collections of the Natural History Society, the Horticultural Society, and others that might be formed illustrating the industrial and fine arts, so as by their union and co-operation to constitute a Comprehensive Museum, or "Conservatory of Arts and Sciences." With this view, after organizing as a "Committee of Associated Institutions," they petitioned the Legislature to allot to their use a portion of the newly-made land on the Back-Bay, on which to erect buildings suitable to their purpose.

The idea of establishing a School of Applied Science in connection with the proposed Museum, had not as yet been entertained. This was first suggested in a Memorial prepared by Prof. William B. Rogers, the present President of the Institute, and adopted by the above-named Committee, of which Hon. Marshall P. Wilder was the Chairman, and Dr. Samuel Kneeland the Secretary. In this memorial, which was submitted to the Legislature in the winter of 1860, reference is made to the expected early establishment of a "Comprehensive Polytechnic College," furnishing "a complete system of industrial education supplementary to the general training of other institutions, and fitted to equip its students with every scientific and technical principle applicable to the industrial pursuits of the age."

This, like the previous effort, failed to secure the favor of the Legislature, but it attracted attention to the importance of practical education, and opened the way for the more definite scheme of organization, which was soon after framed by Prof. Rogers, in the form of a Report setting forth the "Objects and Plan of an Institute of Technology, including a Society of Arts, a Museum of Arts, and a School of Industrial Science." This Report was adopted by the Committee of Associated Institutions, of which Prof. Rogers was now Chairman, in the Autumn of 1860, and furnished the frame-work on which the Institute has since been moulded.

The extensive circulation of the "Objects and Plan," accompanied by an appeal to the public for co-operation and support, led in January, 1861, to a preliminary and informal organization of the Institute, which was soon followed by an application to the Legislature for a charter, and for a grant of land on the Back-Bay for its accommodation and that of the Society of Natural History. This petition was favorably answered April 10th, 1861, when the Institute was incorporated, and the land allotted on which now stand the building of the Institute and that of the Society of Natural History, of the market value of \$200,000.

The Institute was formally organized on the 8th of April, 1862, by the acceptance of the charter, the adoption of by-laws, and the appointment of William B. Rogers, President; John A. Lowell, Jacob Bigelow, Marshall P. Wilder and John Chase, Vice Presidents; and Charles H. Dalton, Treasurer. Its first meeting as a Society of Arts, was held December 17, 1862, at which time the late Dr. Thomas H. Webb was appointed Secretary. Since then, this Department of the Institute has continued to meet twice a month during the season, affording opportunities, which are eagerly availed of, for the exhibition of new inventions, and the discussion of questions in practical science and the arts. The members of the Institute number between three and four hundred, who are also members of the Society of Arts.

I. SCIENTIFIC SCHOOL.

The Scientific School of the Institute was opened in February, 1864, with a class of 15 students, in temporary accommodations in Mercantile Hall, Summer street, where also the Society of Arts held its meetings. In the autumn of 1866, when the School and other Departments of the Institute were transferred to the new building on the extension of Boylston street, the number of pupils had increased to 140, and the class of 1867-8, amounts to 170 students.

On the organization of the Institute, in 1862, through the liberality of gentlemen interested in the undertaking, a sum (about \$50,000) was raised for commencing operations. Since then, large contributions have been received by legacies; from Dr. William Walker of Rhode Island, (\$200,000,) Ralph Huntingdon, (\$50,000,) William P. Mason, (\$20,000,) and James Hayward, (\$20,000,) of Boston, and from Nathaniel Thayer, (\$25,000,) besides subscriptions in sums of \$5,000 and less, amounting to about \$60,000. A further important addition has been made to the funds of the school by the act of the Legislature assigning to the Institute three-tenths of the share of Massachusetts in the National land-grant appropriated to instruction in agriculture and the mechanic arts, netting the Institute \$60,000; making about \$480,000 which have been contributed to the Institute since its foundation.

The building of the Institute, one of the most spacious and elegant in Boston, includes commodious laboratories, lecture-rooms and rooms for drawing, as well as the Hall of the Society of Arts, offices for the Faculty and other officers, and a spacious hall for public occasions.

OBJECTS OF THE SCIENTIFIC SCHOOL.

The objects of the School of the Massachusetts Institute of Technology are:

To provide a full course of scientific studies and practical exercises for students seeking to qualify themselves for the professions of the Mechanical Engineer, Civil Engineer, Practical Chemist, Engineer of Mines, and Builder and Architect:

To furnish a general education, founded upon the Mathematical, Physical, and Natural Sciences, English and other Modern Languages, and Mental and Political Science:

To provide courses of Evening Instruction in the main branches of knowledge above referred to, for persons of either sex who are unable to devote themselves to study during the day, but who desire to avail themselves of systematic evening lessons or lectures.

CONDITIONS OF ADMISSION.

Candidates for admission to the school must have attained the age of sixteen, and are examined in Arithmetic, Plane Geometry, Elementary Algebra, and the ordinary English branches. In general the studies of a good English High School or Academy are the proper preparation for admission.

REGULAR COURSES OF STUDY.

In order to enter the second year's course, the student must be at least seventeen years of age, and must pass a satisfactory examination upon the first year's studies, besides passing the admission examination; and a like rule will apply to the case of students seeking admission into the classes of the succeeding years.

To make the opportunities of instruction as widely accessible as possible, students will be allowed to enter special divisions of either of the courses,—as, for example, the classes of mathematics, of engineering, of chemistry, of physics, or of mining and metallurgy,—on giving satisfactory evidence that they are prepared to pursue such special studies with advantage.

The regular course of instruction extends over four years, in the first two of which the instruction is uniform for all regular students, and embraces in the first year, Algebra, Solid Geometry, Plane Trigonometry and its applications, Mechanical Drawing, and the commencement of Descriptive Geometry, Free-hand Drawing, Elementary Mechanics, Chemistry with Manipulations, the English Language and Literature, and French or German; in the second year the same studies continued into the higher branches of Mathematics, with Descriptive Astronomy, Surveying, and Experimental Physics. In the third year the studies diverge according to the student's future profession. Courses are provided in Mechanical Engineering, in Civil and Topographical Engineering, in Practical Chemistry, in Mining Engineering, in Building and Architecture, and a general course in Science and Literature. Degrees and Certificates are granted in all these departments to students who pass satisfactorily the prescribed examinations.

I. REGULAR COURSES EXTENDING THROUGH FOUR YEARS.

FIRST YEAR.

MATHEMATICS. 1. *Algebra*.—Quadratic Equations; Imaginary Expressions; Ratio; Proportion; Progression; Permutations and Combinations; Binomial Theorem; Indeterminate Co-efficients; Theory of Logarithms, with Construction and Use of Tables. 2. *Solid Geometry*.—Plane and Solid Angles; The Prism and Pyramid; The Sphere, Cylinder, and Cone; Spherical Angles and Polygons. 3. *Plane Trigonometry*.—Different Methods of Measuring Angles; Trigonometrical Ratios and Functions; Construction and use of Trigonometrical Tables; Solution of Triangles. 4. *Applications* of Plane Trigonometry to Heights, Distances, Navigation, &c.

MECHANICAL DRAWING AND DESCRIPTIVE GEOMETRY. The use of mathematical instruments, and of water-colors and India ink, will be taught in connection with the Instruction in Geometry and Trigonometry. The course will include the graphical construction of problems in these branches.

The study of Descriptive Geometry will be commenced, and will include the graphical solution of problems of position relative to the point, the right line, and the plane.

FREE-HAND DRAWING. Instruction will be given in drawing with chalk upon the black-board, and with charcoal, crayons, the pencil, and pen and ink. The students will draw from models, casts and photographs, and from studies of landscape.

ELEMENTARY MECHANICS. 1. *Preliminary Ideas regarding Matter, Motion, and Forces.*—Uniform and varied Right-Line Motions; Composition and Resolution of Forces applied to a point. 2. *Mechanics of Solids.*—Composition of Forces applied to different points in a Mass; Statical Moments; Parallel Forces; Couples; Centre of Gravity; The Pendulum; Curve-line Motion; Friction; Elasticity and Strength of Materials; Impact; Elements of Machinery; Virtual Velocities; Mechanical Work; *Viz Viva*. 3. *Mechanics of Liquids and Gases.*—Pressure and Equilibrium of Fluids; Centre of Pressure; Principle of Archimedes; Specific Gravities; Equilibrium of Floating Bodies; Flow through Orifices, Tubes, etc.; Impulse and resistance of Water; Weight and Compressibility of Air; Barometer; Flow of Air and Gases; Resistance; Hydraulic and Pneumatic Instruments and Machines; Capillarity, and Osmotic Forces.

CHEMISTRY. The course of instruction in Chemistry consists:—1st, Of a weekly exercise which combines an illustrated lecture by the professor, and a recitation by the students upon the lecture of the preceding week:—2d, Of a weekly lesson in the laboratory, where every student is provided with a desk and the necessary apparatus, and will perform, under the supervision of the professors, such experiments as are useful to illustrate and enforce the laws of chemical action, the principles of chemical nomenclature, and the properties of those substances and the nature of those processes which are of importance in common life, or in the useful arts.

In his laboratory-work, the student will use a text-book, in which all needed directions to secure safety and success in performing the experiments are minutely given. The course will include the description and study of all the important chemical elements; but only inorganic chemistry will be treated of during this year.

ENGLISH LANGUAGE AND LITERATURE. The studies of the English department will embrace:—1st, Exercises in English Composition, arranged with special reference to the future wants of the students, and the cultivation of a habit of expressing their thoughts with clearness and precision:—2d, Lectures on the History and structure of the English Language:—3d, The Critical Study of Standard English Writers.

A knowledge of the Latin Language is not required for admission, and the course of instruction in English will not presuppose any acquaintance with Latin; but it is strongly recommended to young men who propose to enter this school to acquire, whenever possible, such a knowledge of Latin as will enable them to read easy Latin prose.

MODERN LANGUAGES. In the study of the Modern Languages, the first aim will be to enable the student to *read* French and German, so that, in the latter years of the course, French and German as well as English text-books may be used in any department.

German alone is studied during the present year. Special attention is given to the German grammar.

SECOND YEAR.

MATHEMATICS. 1. *Spherical Trigonometry.*—Deduction of the Formulæ; Napier's Circular Parts and Analogies; Bowditch's Rules; Gauss's Equations; Solution of Right and Oblique Triangles. 2. *Plane Co-ordinate Geometry.*—Elementary Principles and Definitions; The Point; Equations and Properties of the Straight Line, Circle, Parabola, Ellipse, and Hyperbola. 3. *Analytic Geometry of Three Dimensions.*—The Point; Equations of the Straight Line and Plane, and of Surfaces of the Second Degree, with their Classification and Properties. 4. *Differential and Integral Calculus.*—General Principles and Notation; Derivatives and Integrals of the Simple Functions.

DESCRIPTIVE ASTRONOMY. Form of the Earth; Diurnal Revolution; Parallax; Refraction and Twilight; Earth's Annual Motion; Seasons; Sun; Ecliptic; Spherical Co-ordinates and Figure of the Earth's Orbit; Time; Astronomical Instruments; Universal Gravitation; Kepler's Laws; Precession and Nutation; Moon's Orbit and Phases; Tides; Eclipses; Planets; Comets and Nebulæ; Constellations.

SURVEYING. Surveying by Measurement of Lines alone; Compass Surveying; Trigonometrical Surveying; Levelling; Topographical Surveying; Plane Table Surveying; Theory and Adjustments of Instruments; Field-practice in the preceding branches; Office-practice in Plotting Surveys, Computing Areas, etc., and in Drawing Plans.

MECHANICAL DRAWING AND DESCRIPTIVE GEOMETRY. In Mechanical Drawing, the course of the previous year will be continued, with application to Orthographical, Isometric and Spherical Projection, and to Shades and Shadows.

The study of Descriptive Geometry will be continued so as to include problems of position relative to such surfaces as occur in the Arts, and will be illustrated by a set of models.

FREE-HAND DRAWING. The exercises of the previous year will be continued, with the use of water-colors and distemper.

EXPERIMENTAL PHYSICS. 1. *Phenomena and Laws of Sound.*—Of Waves in general; Propagation, Reflection and Refraction of Sound; Musical Sounds, Laws of Vibrations of Columns of Air, Rods, Cords, Bells; Musical Instruments; Speech and Hearing. 2. *Phenomena and Laws of Heat.*—Expansion; Specific Heat, Fusion, Boiling, Evaporation; Tension of Vapors; Hygrometers; Steam Gauges; Communication, Reflection, and Refraction of Heat; Luminous and Obscure Rays; Sources and Mechanical Equivalent of Heat; the Steam Engine; etc. 3. *Phenomena and Laws of Light.*—Intensity; Photometers; Reflection; Refraction; Dispersion; the Spectrum; Achromatic Combinations; the Spectroscope; the Eye and Vision; Optical Instruments; Diffraction; Law of Interference; Doctrine of Undulations; Double Refraction, and Polarization.

CHEMISTRY. A systematic course of instruction will be given in Qualitative Analysis, by laboratory practice and oral and written examinations. Every student will work in the laboratory twice a week, during a greater part of the year.

The object of this instruction will be to enable the student to detect and prove the presence of any chemical element, whether in a simple or compounded condition. He will be taught to detect and isolate the more common gases and acids, and he will be continually exercised in the application of his acquired knowledge to the analysis of substances whose composition is unknown to him. Towards the close of the year, a course of Lectures will be given on the Elements of Organic Chemistry.

ENGLISH. The course for this year will embrace the study of General and Comparative Grammar, (in connection with the instruction of the Professor of Modern Languages), the further study of the History and Structure of the English Language, the reading of English standard writers, and continued practice in Composition.

MODERN LANGUAGES. French will be begun the second year, and taught upon the same principles as German during the first year.

The study of German will be continued. An advance class will be formed, composed of students of the second, third, and fourth years. The students of this class will have an opportunity to acquire some knowledge of the literature of the language; and, so far as practicable in such a course, they will be instructed in conversational forms.

THIRD YEAR.

I. COURSE IN MECHANICAL ENGINEERING.

1. Differential and Integral Calculus; Analytic Mechanics. 2. Applied Mechanics; comprehending—Strength of Materials used in construction; Estimation of the Resistances of Friction and Rigidity; Pure and Applied Cinematics; Dinapics of Solids, and the application to the Theory of Machines; Hydrostatics and Hydrodynamics; Thermodynamics; Estimation of the Useful Effect of Machines; Principles of Mechanism. 3. Descriptive Geometry applied to Masonry, Carpentry, and Machinery. 4. Drawing of Machinery.

5. Physics continued. 6. Logic, Rhetoric, and the History of English Literature. 7. Extended study of French and German, for the first of which Spanish may be substituted.

II. COURSE IN CIVIL AND TOPOGRAPHICAL ENGINEERING.

1. Differential and Integral Calculus; Analytic Mechanics; Applied Mechanics. 2. Spherical Astronomy; Higher Geodesy; Determination of Latitude and Longitude. 3. Survey, Location and Construction of Roads, Railways and Canals. 4. Measurement and Computation of Earth-work and Masonry. 5. Hydrographical Surveying; Tide Gauges; Soundings; River and Harbor Improvements. 6. Field-Practice. 7. Drawing of Plans, Profiles, Elevations, Sections, etc. 8. Descriptive Geometry, applied to Masonry and Carpentry. 9. Physics continued. 10. Logic, Rhetoric, and the History of English Literature. 11. Extended study of French and German, for the first of which Spanish may be substituted.

III. COURSE IN PRACTICAL CHEMISTRY.

1. Chemical Analysis, Quantitative,—embracing the Analysis and Commercial Testing of Ores, Metals, Alloys, and Mineral Materials; Soda-ash, Bleaching-salt, Saltpeter, Paints, Drugs and Manures; Drinking and Mineral Waters. 2. Lectures on Industrial Chemistry; on the manufacture of Glass, Pottery, Soda-ash, Acids, Soap, Gas, etc.; on the Arts of Dyeing, Calico-Printing, Tanning, Brewing, Distilling, etc. 3. Descriptive and Determinative Mineralogy. 4. Lectures on Structural and Systematic Geology. 5. Drawing,—of Apparatus, and the Machinery and Plans for Chemical, Dyeing, and Print works. 6. Physics continued. 7. Logic, Rhetoric, and the History of English Literature. 8. Extended study of French and German, for the first of which Spanish may be substituted.

IV. COURSE IN MINING ENGINEERING.

1. Differential and Integral Calculus; Analytic Mechanics; Applied Mechanics. 2. Spherical Astronomy and Higher Geodesy. 3. Field-practice in Engineering; Construction of Roads and Railways; Measurement of Earth-work and Masonry. 4. Descriptive and Determinative Mineralogy; Use of the Blow-pipe; Assaying in the Wet and Dry Ways. 5. Metallurgy.—Metallurgical Processes, Constructions and Implements; Furnaces, Crucibles, Blowing Machines, Fuel and Fluxes. 6. Structural and Systematic Geology; Successive Formations with their leading Fossils; Details of the Geology of North America. 7. Drawing.—Geological Sections and Maps; Coloring of Maps and Sections; Drawing of Furnaces, Refineries, and Metallurgical Apparatus. 8. Physics continued. 9. Logic, Rhetoric, and the History of English Literature. 10. Extended study of French and German, for the first of which Spanish may be substituted.

V. COURSE IN BUILDING, AND ARCHITECTURE.

1. Differential and Integral Calculus; Analytic Mechanics; Applied Mechanics. 2. Descriptive Geometry applied to Masonry and Carpentry. 3. Drawing of Projects in Architectural Design and Construction. 4. Physics continued. 5. Logic, Rhetoric, and the History of English Literature. 6. Extended study of French and German, for the first of which Spanish may be substituted.

VI. COURSE IN SCIENCE AND LITERATURE.

1. Differential and Integral Calculus; Analytic Mechanics. 2. Descriptive Geometry: Applications. 3. Physics continued.—Magnetism; Electricity; Meteorology. 4. Quantitative Chemical Analysis. 5. Structural and Systematic Geology. 6. Logic, Rhetoric, and the History of English Literature. 7. Extended study of French and German, for the first of which Spanish may be substituted. 8. Drawing—subjects chosen with reference to the special aptitudes and aims of the student.

Of the subjects 1, 2, 4, the student may omit one, and he may substitute for either of the remaining two some speciality of one of the Professional Courses.

FOURTH YEAR.

I. COURSE IN MECHANICAL ENGINEERING.

1. Construction of Machines and Study of Motors. Calculation of the Strength and Proportions of the Parts of a Machine. Hand Machinery: as Cranes, Derricks, Pumps, Turn-tables, etc. The Hydraulic Motors; Water-wheels, including Turbines; Water-pressure Engines. Power and Strength of Boilers. Steam Engines,—Stationary, Locomotive, Marine; Air and Gas Engines. Construction and Arrangement of Machinery in Mills for Grinding, for Textile Manufactures, etc. 2. Lectures on Combustion and Fuel; and on Warming, Ventilating, and Lighting. 3. Lectures on the Chemistry and Geology of the Materials used in Construction. 4. Descriptive Geometry applied to Masonry, Carpentry, and Machinery. 5. Drawing of Machines, Working Plans, and Projects of Machinery, Mills, etc. 6. Lectures on History, Political Economy, and the Science of Government. 7. Lectures on Mental and Moral Philosophy. 8. Instruction in Zoölogy, Physiology, and Botany. 9. Extended study of French and German, for the first of which Italian may be substituted.

II. COURSE IN CIVIL AND TOPOGRAPHICAL ENGINEERING.

1. Structures of Wood; Framing; Trusses, Girders, and Arches; Roofs and Bridges. 2. Structures of Stone; Foundations; Retaining Walls; Arches; Bridges. 3. Structures of Iron; Foundations; Beams, Girders, and Columns; Roofs and Bridges. 4. Supply and Distribution of Water; Distribution of Gas; Drainage. 5. Geology and Chemistry of the Materials used in Construction. 6. Descriptive Geometry applied to Masonry and Carpentry. 7. Field-practice. 8. Drawing of Plans, Profiles, Elevations, Sections, etc. 9. Lectures on History, Political Economy, and the Science of Government. 10. Lectures on Mental and Moral Philosophy. 11. Instruction in Zoölogy, Physiology, and Botany. 12. Extended study of French and German, for the first of which Italian may be substituted.

III. COURSE IN PRACTICAL CHEMISTRY.

1. Quantitative Analysis continued; Organic Analysis. 2. Preparation of Chemical Products, and Special Researches. 3. Lectures on Combustion and Fuel. 4. Lectures on Warming, Ventilating, and Lighting. 5. Drawing as in Third Year. 6. Lectures on History, Political Economy, and the Science of Government. 7. Lectures on Mental and Moral Philosophy. 8. Instruction in Zoölogy, Physiology and Botany. 9. Extended study of French and German, for the first of which Italian may be substituted.

IV. COURSE IN MINING ENGINEERING.

1. Construction of Machines. 2. Structures of Wood, Stone and Iron; Trusses; Arches, Girders, Roofs, and Bridges. 3. Quantitative Chemical Analysis. 4. Lectures on Combustion and Fuel. 5. Lectures on Warming, Ventilating and Lighting. 6. Geology of Coal, Iron, Copper, Lead, Zinc, Salt, Plaster, Silver, Gold, etc., with particular reference to North American localities. 7. Lectures on Mining—Prospecting, Breaking Ground, Boring, Blasting, Tubing, Sinking Shafts, Driving Tunnels, Ventilating and Lighting. The different Methods of working Mines. Mining Machinery and Motors,—Engines, Horses, Pumps, Wagons, Drums, Ropes, etc., for conveying and raising the Material,—The Dressing and Concentration of Minerals,—Crushers, Stamps, Washers, Amalgamators, etc. Quarrying and open Mining. Details of Mining in this country; with History and Statistics of Mining generally. 8. Drawing,—Geological Maps and Sections; Coloring of Maps and Sections; Plans and Sections of Mines, Quarries, and other open Workings; Mining Machinery and Implements; Plans of Ventilation. 9. Lectures on History, Political Economy, and the Science of Government. 10. Lectures on Mental and Moral Philosophy. 11. Instruction in Zoölogy, Physiology, and Botany. 12. Extended study of French and German, for the first of which Italian may be substituted.

V. COURSE IN BUILDING AND ARCHITECTURE.

This course will be practical as well as theoretical, and will embrace the thorough study of composition and design, and of the history of the art. It will consist chiefly of a series of projects in construction and design, to be worked out by the student. These will be illustrated by lectures upon the theory and practice of the art, pertinent to the subjects in hand.

Although the regular courses of the three earlier years of the school, embracing Mathematics, Chemistry, Physics, Drawing, and the scientific study of construction and materials, form the best preparation for the fourth year's course in Building and Architecture, yet other students will be admitted to it as special pupils; and it is hoped that practising draughtsmen, whose opportunities of study are limited, will avail themselves of those here offered. It will be the object of the course to furnish the instruction and discipline that cannot be obtained elsewhere, rather than to cover the whole ground of architectural study. Much of the ordinary detail of work must necessarily be left for students to acquire in architects' offices.

The following courses will be required of the regular students in this department:—

1. Study of Structures of Stone, Wood and Iron; Trusses, Arches, Girders, Roofs, and Bridges.
2. Lectures on Warming, Ventilating, and Lighting.
3. Lectures on the Geology and Chemistry of the Materials used in Construction.
4. Lectures on History, Political Economy, and the Science of Government.
5. Lectures on Mental and Moral Philosophy.
6. Instruction in Zoölogy, Physiology, and Botany.
7. Extended study of French and German, for the first of which Italian may be substituted.

VI. COURSE OF SCIENCE AND LITERATURE.

1. Applications of the Calculus.
2. Outlines of Zoölogy, Physiology, and Botany.
3. Geology continued; including Palæontology.
4. Quantitative Chemical Analysis; Organic Chemistry.
5. Lectures on Combustion and Fuel; on Warming, Ventilation and Lighting.
6. Lectures on Mental and Moral Philosophy.
7. Lectures on History, Political Economy, and the Science of Government.
8. Extended study of French and German, for the first of which Italian may be substituted.
9. Drawing as in Third Year.

Of the subjects 1, 3, 4, the student may omit one, and he may substitute for either of the remaining two some speciality of one of the Professional Courses.

MILITARY TACTICS.

The regular students of the School will be taught the use of small-arms, and the simpler parts of tactics; and, for this purpose, will be organized into one or more companies, to meet on stated days for military instruction and exercise.

METHODS AND APPARATUS OF INSTRUCTION.

1. *Lectures and Familiar Expositions.* As a general rule, each lecture will be preceded by an examination on the previous one, in which the teacher will have an opportunity of re-enforcing the Instruction already given, as well as of testing the progress of individual students. Text-books will be used in connection with the lectures.

2. *Written Examinations.* Beside the daily oral examinations already referred to as accompanying the lectures, written examinations will be held at stated periods, at which each class will be examined in the subjects appointed for study during the interval just elapsed.

3. *Laboratory Work in Chemical Analysis, Metallurgy and Industrial Chemistry.* In the chemical laboratories, provision is made for the thorough and comprehensive study of qualitative and quantitative analysis, embracing organic as well as inorganic substances, and for special instruction in whatever relates

to practical mineralogy, the chemical valuation of ores, and the various operations for the separation and refining of metals. In these laboratories, students of industrial chemistry will also have an opportunity of becoming practically familiar with the materials, implements, and processes of the more important chemical arts and manufactures. A high value is set upon the educational effect of laboratory practice, in the belief that such practice trains the senses to observe with accuracy, and the judgment to rely with confidence on the proof of actual experiment.

4. A *Laboratory for Physical Manipulations*, in which the student may be exercised in a variety of Mechanical and Physical processes and experiments, will be established at an early day.

5. *Designing and Drawing of Machines and Works of Engineering and Architecture*.

6. *Practical Exercises in Surveying, Levelling, Geodesy, and Nautical Astronomy*.

7. *Excursions for the Inspection and Study of Machines, Processes of Manufacture, Buildings, Works of Engineering, Geological Sections, Quarries, and Mines*. In aid of the practical studies of the School, and as a means of initiating the students into the actual details of the professions for which they are preparing, they will be required from time to time, in the progress of the course, assisted by one or more of their teachers, to make visits of inspection to machine-shops, engines, mills, furnaces, and chemical works, and to important buildings and engineering constructions which are within convenient reach.

With a like view, and under the same direction, they will be expected to spend such parts of vacations as may be assigned, in excursions for observation and practice.

EXAMINATIONS OF THE REGULAR COURSE.

Near the close of the months of January and May, general examinations will be held,—that of January embracing the subjects studied during the first half-year, that of May covering the studies of the whole year. Each examination on a distinct subject will be marked on a scale of 100, and the marks of each student will be reported to his parent or guardian. These returns are intended to enable the parent or guardian to judge of his son's or ward's proficiency in each department of instruction. No student who fails to pass the annual examination will be permitted to enter upon the studies of the following year without passing a new examination.

GRADUATION EXAMINATIONS.

The examination for degrees will be held in the month of May, and will be partly oral and partly in writing. In both, the questions will range over the entire series of studies on which the student is required to be prepared.

As part of these examinations, the candidates will be called upon to exhibit the drawings and projects prepared by them for the occasion, and to perform such laboratory manipulations and exercises as the Faculty may assign.

At the same time, the theses of the candidates will be presented for examination; and, where expedient, their authors will be called upon to explain or defend them.

DIPLOMAS AND CERTIFICATES.

As the diploma or certificate is intended to be, not only a reward to the student for his diligence and attainments, but an assurance to the public of his knowledge and skill in the particular department of science to which it relates, it will be conferred on such students only as give proof by their examinations and other exercises that they possess the prescribed qualifications; but all persons who fulfill this requirement shall be entitled to the testimonials of the Institute without regard to the length of time they may have spent in the School.

The degrees or diplomas corresponding to the leading divisions of the School, will be as follows:

1. A DEGREE IN MECHANICAL ENGINEERING.
2. " " CIVIL AND TOPOGRAPHICAL ENGINEERING.
3. " " PRACTICAL CHEMISTRY.
4. " " GEOLOGY AND MINING ENGINEERING.
5. " " BUILDING AND ARCHITECTURE.
6. " " SCIENCE AND LITERATURE.

To be entitled to either of these degrees, the student must pass a satisfactory examination on the whole course of studies and exercises prescribed in his department, including the elementary and general, no less than the advanced and special subjects. He must, moreover, prepare a dissertation on some subject included in the course of study, or submit an original report upon some machine or work of engineering, or some mine or mineral survey or scientific investigation, which shall be approved by the Faculty. He will be required, also, to have sufficient familiarity with French and German to be able to read without difficulty works in these languages, relating to science and the arts.

Besides the degrees and diplomas covering the complete courses of study above referred to, there will be given certificates of attainment in special subjects to such students as on examination are found to have attained the required proficiency in them.

II. AFTERNOON AND EVENING COURSES OF INSTRUCTION.

This department of the school is intended for the benefit of persons who desire to pursue courses of study in a systematic way by the aid of afternoon or evening lessons and lectures. It embraces a number of distinct courses, more or less varied from year to year by the omission or interchange of particular subjects, but including in their entire scope instruction in mathematics, physics, chemistry, geology, natural history, English and other modern languages and literature, navigation and nautical astronomy, architecture and engineering.

Except in the case of courses in which provision may be made for gratuitous instruction, a fee will be required, payable in advance.

LOWELL LECTURES.

As auxiliary to this Department, the Trustee of the Lowell Institute has established, under the supervision of the Institute of Technology, courses of instruction to be open to students of either sex, free of charge.

MASSACHUSETTS AGRICULTURAL COLLEGE.

AMHERST, HAMPDEN COUNTY.

HISTORY.

THE Massachusetts School of Agriculture was incorporated in 1856, but its original incorporators failing to secure by private subscription or State appropriation the means to begin operations, the charter was transferred in 1860 to several enterprising citizens of Springfield, who after consultation with the leading agriculturists in the central part of the State, determined to raise \$75,000 to open the institution in that city. The breaking out of the war suspended the canvass for subscriptions, and all efforts to establish the school, until 1863, when the Legislature, having accepted the conditions of the National land-grant of 1862, determined after much discussion, to divide the bounty of the government between two independent institutions, one of which should be devoted to the special education of young men in scientific agriculture and horticulture; and the other, (the Massachusetts Institute of Technology, at Boston,) to instruction in the mechanic arts.

The Massachusetts Agricultural College was accordingly established April 29, 1863—the location, organization, government, and course of study, were left with the trustees, (consisting of fourteen persons, and the Governor, the Secretary of the Board of Agriculture, the Secretary of the Board of Education, and the President of the College,) subject to the approval of the Legislature.

To the College thus established, was given the proceeds of the sale of one-tenth of the land-scrip received from the National government, for the purchase of a Farm, and two-thirds of the income of the fund obtained by the sale of the remaining nine-tenths, as an endowment, on condition that the further sum of seventy-five thousand dollars should be secured by valid subscription or otherwise, for the purpose of erecting suitable buildings.

The town of Amherst having pledged the sum, \$75,000, for such buildings as were necessary to put the College into operation, and an eligible site, and farm of 383 acres having been secured in that town, at a cost of \$41,000, the institution was permanently located there in 1864, and the improvement of the grounds and the erection of suitable buildings commenced. After many untoward hindrances and partial organizations, the buildings were in such state that the College was opened for the reception of students in October, 1867, under the presidency of Col. William S. Clark.

TRUSTEES.

Members ex-officiis.—His Excellency ALEXANDER H. BULLOCK; Hon. JOSEPH WHITE, Secretary of the Board of Education; Hon. CHARLES L. FLINT, Secretary of Board of Agriculture; WILLIAM S. CLARK, President of the College.

Members elected by the Legislature.—MARSHALL P. WILDER, of Norfolk County; CHARLES G. DAVIS, of Plymouth County; NATHAN DURFEE, of Bristol

County; HENRY COLT, of Berkshire County; CHARLES C. SEWALL, of Norfolk County; PAOLI LATHROP, of Hampshire County; PHINEAS STEDMAN, of Hampden County; ALLEN W. DODGE, of Essex County; GEORGE MARSTON, of Barnstable County; WILLIAM B. WASHBURN, of Franklin County; GEORGE L. WHITING, of Dukes County; D. WALDO LINCOLN, of Worcester County; HENRY F. HILLS, of Hampshire County; ———, of Middlesex County.

BOARD OF OVERSEERS.

The State Board of Agriculture.

FACULTY.

WILLIAM S. CLARK, Ph. D., President, and Professor of Botany and Horticulture, and Director of the Botanic Garden; LEVI STOCKBRIDGE, Farm Superintendent, and Instructor in Agriculture; EBENEZER S. SNELL, LL. D., Professor of Mathematics; HENRY H. GOODELL, A. M., Professor of Modern Languages, and Instructor in Gymnastics and Military Tactics.

COURSE OF INSTRUCTION.

FRESHMAN YEAR.

First Term.—Algebra; Human Anatomy and Physiology; Chemical Physics.

Second Term.—Geometry; French; Chemistry.

Third Term.—Geometry; French; Botany.

Lectures upon Hygiene, Chemistry, Botany, and Agriculture; and Exercises in Orthography, Elocution, and English Composition, during the year.

SOPHOMORE YEAR.

First Term.—German; Agriculture; Commercial Arithmetic, and Book-keeping.

Second Term.—German; Trigonometry; Analytical Chemistry.

Third Term.—Mensuration; Surveying; Analytical Chemistry; Zoölogy; Drawing.

Lectures upon Comparative Anatomy, Diseases of Domestic Animals, Organic Chemistry, and Market Gardening; and Exercises in English Composition, and Declamation, during the year.

JUNIOR YEAR.

First Term.—Physics; French or German; Agricultural Chemistry; Drawing.

Second Term.—Physics; Rhetoric; Horticulture.

Third Term.—Astronomy; Systematic Botany; History of the United States.

Lectures upon Physics, Mineralogy, the Cultivation of the Vine and Fruit and Forest Trees, and Useful and Injurious Insects; and Exercises in English Composition, and Debate, during the year.

SENIOR YEAR.

First Term.—Intellectual Philosophy; History; Physical Geography.

Second Term.—Moral Philosophy; Political Geography; the Civil Polity of Massachusetts and the United States.

Third Term.—Geology; Engineering; Political Economy.

Lectures upon Stock Farming, Architecture, Landscape Gardening, Geology, and English Literature; and Exercises in Original Declamation, and Debate, during the year.

Exercises in Gymnastics, Military Tactics, and the various operations of the Farm and Garden, through the course.

BUILDINGS.

The Trustees, in their report for 1867, give the following account of the buildings already erected:

It has been the design of the Trustees thus far to expend the fund of \$75,000, pledged by the town of Amherst for such buildings as were necessary to put the College into operation, and try upon a moderate scale the experiment about which there has been so much discussion, of combining in an educational course, theory and practice,—scientific culture and manual labor. With this object in view they have erected a Dormitory 100×50 feet, and four stories high, with a basement for fuel. This edifice, besides rooms for one professor and forty-six students, contains two recitation rooms, a reading room and library, and two large rooms occupied by the State cabinet of specimens illustrating the natural history and geology of Massachusetts. This edifice, with fixtures for the public rooms, stoves, well, grading and out-buildings, cost \$36,280.

The Boarding-house furnishes accommodations for a family, and has a dining-room 50×15 feet, where the students are provided with satisfactory board, at \$3 per week. The cost of this building, including furniture, grading, and supplying with water, was \$8,180.

The Chemical Library is 57×46 feet, and two stories high, and affords excellent rooms for lectures, practical chemistry, and apparatus. The building, including bell and grading, has cost about \$10,360. It has not yet been provided with apparatus or furniture, and is used at present as a gymnasium.

The Botanic Museum is a two-story structure, 45×31 feet, with a deep cellar for storing plants, flower-pots, sand, and other material for winter use in the glass houses adjoining. The lower floor contains the president's office and lecture room, and the upper floor will be provided with cases for the exhibition of fruit models, specimens of seeds, woods, and interesting vegetable products. The cost of this building, including furniture and grading, will be \$5,180.

The Durfee Plant houses are an elegant group of glass buildings with curvilinear roofs, covering 5,000 square feet of surface, and heated by hot water. It is divided into five compartments, the temperature and moisture of which are entirely under the control of the superintendent. They are named the dry stove, for succulent plants; the moist stove, for true tropical species; the palm-house, for larger species of tender trees and shrubs; the camellia house, for such as require comparatively little heat; and the victoria house, for aquatic and air plants. Besides these there are two propagating pits, each 50×12 feet, one of which is supplied with a hot-water tank for heating the sand beds, while in the other they are warmed by the circulation of water from the boilers in iron pipes. An abundant supply of soft water is procured from a reservoir on the hill north of the building, which is heated and aerated in a tank over the potting room and boilers. From the tank it is conducted in iron pipes to all parts of the house, and flows with sufficient force to feed a fountain in the victoria house, and shower all the plants as required. The plan and specifications, grading and foundations for this building, cost about \$2,000, and the structure itself, with heating apparatus and water, about \$10,000 more, which was generously paid by Dr. Nathan Durfee, of Fall River. When completed it will cover more than 10,000 square feet, and be one of the most tasteful, conveniently arranged, and delightfully located buildings of the kind in the country. The value of such an establishment for experiments in hybridizing, propagating, and cultivating useful and ornamental plants, as well as in teaching horticulture and systematic botany, can hardly be overestimated. By the wise liberality of Messrs. L. M. and H. F. Hills, of Amherst, the College has been provided with a fund of \$10,000, the income of which is to be expended in the purchase of such seeds, plants and books as may be needed in this department.

Plans and specifications for a model barn have been procured, and the sum of \$7,000 appropriated for its construction. The stone and much of the lumber will be taken from the lands of the College and hauled to the location selected, on the central ridge of the farm, about forty rods south of the dormitory, the present winter. The barn is intended to stand on the western slope of the ridge, and to be 100×50 feet, with posts 28 feet high. The upper, or threshing floor, is to be ten feet above the sills, and entered by a bridge from a wall fourteen feet east of the building. The lower story contains stables, root-room, granary, and feeding floor, with bay for hay, which is to be thrown down from the upper floor. In the second story is the tool-room and corn-house, and underneath the whole of the main building a cellar for manure. The barn

stands east and west, with an ell on the west end, extending south from the building 100 feet, for a shelter to the stock and for storage. On the east end of the barn is another ell, 30×20 feet, and two stories in height, with horse-stable and carriage-room above, and piggery below. The entire structure will hold about 175 tons of hay. Another barn of equal capacity will ultimately be necessary upon the north side of the farm.

With its present buildings, (which will cost \$75,000, besides \$10,000 given by Dr. Durfee, who has also given \$10,000 to meet the annual expenses of the Plant-house,) the College will be able to educate about fifty young men, and with another dormitory building, with public rooms on the first floor, another boarding-house, and two houses for professors, another class of sixty could be accommodated. This will require an expenditure of \$50,000.

STUDENT LABOR.

In most seasons of the year, students are required to labor, without pay, for two hours a day, and those who wish it are paid for additional work at the rate of twelve and a half cents per hour, and in special kinds of work at higher rates.

The Trustees have petitioned the Legislature for an appropriation of \$50,000 to furnish additional buildings for said institution, for the following reasons:—

First.—Massachusetts has accepted from Congress a gift of 252,000 acres of land, and from the town of Amherst and from individuals, the sum of \$95,000, and has appropriated from the treasury \$20,000, for the express purpose of promoting education in agriculture, and has pledged herself to maintain forever an Agricultural College.

Second. After five years of preparation, the College has been put into successful operation and is filled with students, while numerous applications are being received for admission to the next class.

Third.—The course of instruction occupies four years, so that it is necessary to accommodate four classes in order to carry out the plan of organization adopted; but the first class occupies all the rooms of the college. It is evident, therefore, that either a further development of the institution must be stopped, and the number of students be limited to fifty, and the number of classes to one, or additional buildings must be completed before September next.

Fourth.—This is not only desirable for the credit of Massachusetts that she may have an Agricultural College worthy of her fame in educational matters, but it is the only true economy. The sum of \$275,000 has been invested in the institution, the interest of which at six per cent. is \$16,500. If this be devoted to the education of fifty students, they receive \$330 as the actual cost of their education. If, on the other hand, the number of students is two hundred, as it should be for the successful working of the plan adopted, they receive annually \$87.50 each from the income of the investment.

Fifth.—The erection of buildings for the accommodation of students and officers, is the best possible mode of endowing the college, since it increases the number of laborers on the farm and the amount of income received as tuition.

Sixth.—The number of students in the four classes should not be less than two hundred, in order to give the college a good standing among similar institutions, and to enable the trustees to secure the services of a thoroughly competent faculty.

Seventh.—The college deserves favorable consideration because it is established for the special benefit of the industrial classes, and offers to the young farmers of the Commonwealth an excellent scientific business and professional education at the lowest possible cost.

Eighth.—It is believed, if the State will now show faith in the success of the enterprise, and a determination to render the college worthy the honored name it bears, that wealthy individuals will cheerfully contribute to its funds as has been so often and so generously done for the other colleges of the Commonwealth.

NEW YORK STATE AGRICULTURAL COLLEGE.

CORNELL UNIVERSITY, ITHACA.

PRELIMINARY HISTORY.

THE largest apportionment of the national grant was bestowed upon the Empire State—nine hundred and ninety thousand acres in scrip. The offer was accepted promptly by the legislature, and at first the proceeds were voted (in 1863,) to the endowment, under certain conditions, of the “People’s College” at Havana, an institution which had been struggling for several years to maintain its precarious existence. Before recording the final disposition of this munificent grant, it is proper to note several prior stages in the history of scientific industrial education in this great State.

The wise and beneficent labors of Stephen Van Rensselaer, in 1819, in procuring legislative aid “for the encouragement and improvement of agriculture” by forming County Societies, and a State Board—in securing at his own expense, in 1820, accurate and minute geological and agricultural surveys, and extensive analyses of various soils in the counties of Albany and Rensselaer—and in 1822–23, the more extensive geological exploration of the strata and rocks on both sides of the Erie canal, by Prof. Amos Eaton—in employing, in the summer of 1824, the same Professor with competent assistants, and sufficient apparatus and specimens, to lecture, with experiments and illustrations, on chemistry, natural philosophy, and natural history, in all the principal villages and towns on or near the route of the Erie canal—and to crown the whole, in establishing, in the fall of 1824, an institution in Troy “to give instruction in the application of science to the common purposes of life,” and particularly “to qualify teachers for instructing the sons and daughters of mechanics, in the application of experimental chemistry, philosophy and natural history, to agriculture, domestic economy, and the arts and manufactures,”—these labors and the results mark a new era in the history of American education. The opening of the Scientific School in Troy, on the 5th of November, 1824, (incorporated as the Rensselaer Institute in 1826,) with buildings and professors furnished at his cost for fourteen years, entitle Stephen Van Rensselaer to be considered as the founder of this class of institutions in this country. From this Institute, for thirty years, proceeded more State geologists, principal and assistant engineers on public works, practical chemists, naturalists, and scientific professors, than from all the Colleges in the Union in the same period.

To the practical agriculturists of the State of New York, is the country indebted for the earliest efforts to establish a school of Agriculture. As early as 1837, the efforts of Jesse Buel, through the Cultivator, seconded by Dr. Beekman and others, funds were subscribed, a site selected near Albany, and a plan of organization formed for an institution to be devoted to agricultural education. But the project failed for the time, to be revived by Dr. Beekman in 1844, and almost realized through the liberality of Mr. John Delafield. But his

death in 1854 again postponed the consummation. In 1856, through the persistent efforts of members of the State Agricultural Society, and particularly of Col. B. P. Johnson, the sum of \$40,000 was appropriated by the Legislature towards a College of Agriculture, on condition that a like sum should be raised by private subscription. This sum and more was soon raised, and a tract of 400 acres in the town of Ovid, in full view of Seneca lake, was selected as a site of the institution. The funds were all exhausted in the erection of a building, and although instruction was actually given to a few students for a few months in 1860, the College can hardly be said to have been inaugurated, before the single instructor on duty resigned and entered one of the first regiments which New York sent to the national army in 1861.

In the mean time the project of a "People's College" at Havana, had been started, and enlisted the interest of the friends of industrial education throughout the State, and with the assurances of large endowments from a single individual, of lands, workshops, machinery, and apparatus, suitable for a great industrial University, the Legislature of New York in 1863, as has been before stated, appropriated the National land-scrip assigned to this State by the act of Congress of 1862, to this projected College.

THE CORNELL ENDOWMENT.

As these conditions were not complied with, the legislature were led, (in March 1865,) by a generous donation from a citizen of Ithaca, Mr. Ezra Cornell, to devote the national grant, in connection with this private gift, to the endowment and maintenance of a new institution to be called the "Cornell University" and to be established at Ithaca, New York. One of the principal speeches in the Senate, having reference to this action, was made by Andrew D. White, then Senator from Onondaga, and now Chancellor of the University.

In addition to his gift of five hundred thousand dollars, Mr. Cornell has made the additional gift of two hundred acres of excellent land, with buildings, as a farm to be attached to the Agricultural Department; the Jewett collection in Geology and Palæontology, which had cost him ten thousand dollars, and other gifts to the amount of twenty-five thousand dollars.

Besides this, he has expended about three hundred thousand dollars in purchasing the land scrip and locating the lands for the University, and previous to all these gifts, he had erected in the village of Ithaca, at a cost of nearly one hundred thousand dollars, a free public library with large halls, and with lecture rooms which will be exceedingly useful as affording supplementary accommodations for the lectures and public exercises of the University.

The trustees are hopeful that under the judicious management of Mr. Cornell, the fund derived from the land grant will reach a very large amount. (Estimated by persons who know the value of the timbered land already located, on the scrip already issued, at not less than \$1,000,000.)

A letter from Hon. T. Hillhouse, State Comptroller, June 19, 1867, to his Excellency Governor Fenton, reports that,—

"This State has received from the General Government, 6187 pieces of scrip, of 160 acres each, and representing 989,920 acres, of this 2900 pieces, representing 464,000 acres have been sold as follows: 425 pieces at 85 cts. per acre; 50 pieces at 83 cts.; and 625 pieces at 50 cts. There has also been sold to Hon. Ezra Cornell, 1800 pieces at 30 cts. per acre, and the prospective net profits on the sale and location, which cannot now be ascertained."

TRUSTEES.

The act of incorporation designated several persons to act as the Trustees of the University and they had power to add to their number, so that there should be seventeen trustees in addition to those who were *ex-officio*.

The names of the Trustees for 1867, are as follows:

His Excellency, REUBEN E. FENTON, Governor; His Honor STEWART L. WOODFORD, Lieutenant-Governor; Hon. EDMUND L. PITTS, Speaker; Gen. MARSENA R. PATRICK, President State Agricultural Society; Hon. VICTOR M. RICE, Superintendent of Public Instruction; EZRA CORNELL, Chairman of Board of Trustees; ANDREW D. WHITE, President of the University; FRANCIS M. FINCH, Librarian Cornell Public Library; ALONZO B. CORNELL, Ithaca; HORACE GREELEY, New York; EDWIN D. MORGAN, New York; ERASTUS BROOKS, New York; WILLIAM KELLY, Rhinebeck; Gen. J. MEREDITH READ, Albany; GEORGE H. ANDREWS, Springfield, Otsego Co.; ABRAM B. WEAVER, Deerfield, Oneida Co.; CHARLES J. FOLGER, Geneva; EDWIN B. MORGAN, Aurora; JOHN M. PARKER, Owego; HIRAM SIBLEY, Rochester; JOSIAH B. WILLIAMS, ITHACA; GEORGE W. SCHUYLER, Ithaca, Treasurer of the University; WILLIAM ANDRUS, Ithaca; JOHN MCGRAW, Ithaca.

The trustees having been called together, appointed a committee on organization, of which Andrew D. White was chairman, who presented their report, October 11, 1866. (Albany, 8vo. 48 pp.) In this elaborate paper the scope of the proposed University is carefully indicated, and the views of the chairman of the committee in respect to the selection of professors, the course of study, the government of the students, manual labor, and many other important topics are fully expounded. Since it was printed, the first general announcement of the trustees has been given to the public. The instruction is to commence on the last Wednesday in September, 1868.

COURSES OF STUDY.

At the outset, there will be two divisions in the University, the first providing instruction in special sciences and arts, and the second providing what are called general courses, preparatory to various professional or special courses. In the first division, there are to be seven departments, viz. Agriculture, Mechanic Arts, Civil Engineering, Military Engineering and Tactics, Mining and Practical Geology, History, Social and Political Science. In the second division there will be eight courses of study, which are thus defined.

1. *First General Course, or "Modern Course."*

This will extend through four years. To Modern Languages, which have become so indispensable in a good education, will be mainly assigned the place and labor usually given to Ancient Languages. The course will be suited to the needs of students, so far as possible, by the allowance of options between studies in the latter years of the course, on a plan somewhat similar to that lately adopted at Harvard University.

2. *"Modern Course Abridged."*

This course will extend through three years. This, as well as the abridged courses which follow, are intended to meet the needs of those students who have not time for a full general course. It will give the *main* studies of the extended course, the *subordinate* studies being omitted so as to decrease the time one year.

3. *Second General Course, or "Combined Course."*

This course will extend through four years. In this the languages studied will be Latin and German, the remainder of the course being essentially the same as the "General Course." To those who wish to make a thorough study of Modern Languages this course will be valuable, as combining the most useful parts, practically, of the courses usually pursued in Colleges, with a broader course; giving the two sides of all the great Modern Languages and literatures, including our own, and aiding the scientific student greatly in the literature and nomenclature of science.

4. *"Combined Course, Abridged."*

This will extend through three years. Its name explains its character.

5. *Third General Course, or "Classical Course."*

This will be mainly like the "First General Course," with the option of Ancient Languages for Modern.

6. *"Scientific Course."*

This will extend through three years, affording a general scientific preparation for either of the first four departments in the "First Division," as named above. A special effort will be made to bring this department fully up to the needs of the times, both by the course adopted and by the professors elected to maintain it.

7. *"Scientific Course Abridged."*

This will extend through two years. Its name explains its character.

8. *"Optional Course."*

In this course the student, on consultation with friends and the appropriate instructors, selects any three studies for which he may be fitted, from the whole range of studies pursued in the entire University, follows them up to such point as may be agreed upon, and receives, from the Governing Board of the University, at the completion of his work, a certificate, showing the extent of the course he has taken.

The requirements for admission are both general and special.

GENERAL REQUIREMENTS.—All candidates for admission to any department or course must present satisfactory evidences of good moral character.

All candidates for admission to any of the special departments in the "*First Division*" must be at least sixteen years of age. All candidates for admission to any of the courses of the "*Second Division*" must be at least fifteen years of age.

Candidates for advanced standing will be examined in the previous studies of the course which they purpose to enter, and if they come from another College or University will present certificates of honorable dismissal.

Entering the University will be considered a pledge to obey its rules and regulations.

Candidates for admission to any department or course must have received a good common English education, and be morally, mentally and physically qualified to pursue to advantage the course of study to which they propose to give their attention.

SPECIAL REQUIREMENTS.—1. In the department of Civil Engineering and Architecture, Military Engineering and Tactics, and Mining and Practical

Geology. In addition to the general requirements candidates will be examined in the whole of Elementary and Plane Geometry.

2. For the "Combined Course" in the Second Division, in which Latin is taken as an optional study in place of one of the Modern Languages, in addition to the general requirements the candidate will be examined in Cæsar's Commentaries, Cicero's Select Orations, six books of the *Æneid* and forty-five exercises in Arnold's Prose Composition, or in a course equivalent to this.

3. For the "Third General Course," or "Classical Course," an examination will be made similar to that for entering the first year at the existing Colleges of a good grade.

TUITION.

By the charter, free tuition is to be given to one student from each of the one hundred and twenty-eight Assembly districts of the State, who are to be selected by competitive examination from the public schools and academies, other students will pay thirty dollars for the year. Rooms for 200 students will be provided at moderate charges in and near the college buildings; and board must be obtained in private families or in clubs.

FACULTY.

A resident Faculty will be in readiness which, it is believed, will command the confidence of all friends of advanced and extended education. In addition to these, it is intended to secure, as non-resident professors, a number of gentlemen especially distinguished to deliver courses of lectures in their several departments. Several gentlemen of acknowledged eminence in science, literature and the practical arts, have already signified their willingness to accept such positions, and it is intended to announce the names of the Faculty, resident and non-resident, through the public prints early in the summer of 1868.

BUILDINGS.

One large stone building, 165 by 50 feet, and four stories in height, has already been erected; another of the same size is in progress. In these, besides dormitories, are library, lecture and recitation rooms, over thirty in number, and of various sizes.

LABORATORIES.

There will be two laboratories well equipped, one under the direction of the Professor of Agricultural Chemistry, and the other under the Professor of General Chemistry.

COLLECTIONS.

The University already possesses the Jewett collection in Palæontology and Geology, purchased at a cost of ten thousand dollars, and has received a donation from the State of a collection of duplicates from the State Geological collection, and has funds now in hand to make large additional collections for illustration in the different departments.

LIBRARIES.

The trustees feel warranted in stating that the University will commence with a scientific and general library sufficient for the immediate wants of Faculty and Students, and constant appropriations will be made for its increase.

STUDENT LABOR AND PRACTICAL INSTRUCTION IN AGRICULTURE.

There is much labor to be done upon the farm attached to the Agricultural department, and a large number of students can be employed from one to three hours a day, at fair prices. Shortly after the organization of the University, the University Steward will organize a voluntary corps for systematized and remunerated labor, under the direction of the Professor of Agriculture and Engineering.

STUDENT LABOR AND PRACTICAL INSTRUCTION IN THE MECHANIC ARTS.

It is intended to erect workshops upon the University property where students, under proper direction, can have practical instruction in Mechanic Arts. The first of these will be a workshop fitted with the proper machinery for working in wood and iron, in which students can labor at fair prices upon agricultural implements and machinery in general, and upon models for the University collections of machinery and apparatus.

Accomplished artisans will superintend this work, and the attention of those young men who would qualify themselves, by scientific study, for the most responsible and remunerative positions as master mechanics and superintendents of workshops, is invited to this feature in the course of practical instruction.

PENNSYLVANIA STATE AGRICULTURAL COLLEGE.

CENTRE COUNTY.

HISTORY.

THE amount of scrip received by Pennsylvania was larger than that assigned to any other State except New York. It represented 720,000 acres of land. The proceeds were directed by the legislature to the "Agricultural College of Pennsylvania," established in Centre County, ten miles, from Bellefonte, the county seat. Prior to April 10, 1867, the amount of 260,000 acres had been sold for \$151,136,—the price averaging a small fraction over 58½ cents per acre. The remaining 520,000 acres were sold at the date just named at an average price of 55½ cents per acre, or \$286,600 ; but as the sales were made on time, the money will not be realized at once.

The Philadelphia Agricultural Society was founded in 1785, and held regular sessions for several years. In 1823, the Pennsylvania Agricultural Society was established, including practically members from only the Eastern Counties, and holding a few annual fairs. In 1851, a State Agricultural Society was organized by delegates from fifty-five counties, who assembled in Harrisburg, on the 21st of January. The first annual fair was held in October following, and was attended by 20,000 persons.

The Farmers High School of Pennsylvania, originated in a meeting of the State Agricultural Society, held at Harrisburg, Jan. 18th, 1853. At this meeting a committee, consisting of F. Watts, J. H. Ewing and H. N. McAllister, was appointed and reported favorably on the establishment of an Agricultural College. The whole subject was referred to an Agricultural Convention to be held at Harrisburg on the 8th of March following. At this Convention, composed of delegates from all parts of the State, it was voted to establish such an institution, to be styled "The Farmers' High School," with a model farm attached, and a committee of which F. Watts, President of the State Agricultural Society was chairman, to obtain an act of incorporation was appointed. Judge Watts discussed the whole subject fully in the Annual Report of the Society for that year, and obtained an act of incorporation, approved April 13, 1854. By this act, the management of the institution was intrusted to the Presidents of the County Agricultural Societies, and the President and Vice President of the State Agricultural Society. They were authorized "to select a site, erect buildings, and procure a good practical farmer for its principal, who with such other persons as should be employed as teachers, shall comprise the faculty." A Board, consisting of fifty *ex-officio* members proved too large and too little interested in this special work, and after repeated attempts to get a quorum, the original Committee of the State Society applied to the Legislature for a modification of the charter, which was obtained and approved Feb. 22, 1855. The number of Trustees was reduced and a portion of them selected from their known interest in the proposed institution.

In July, 1855, the executive Committee of the State Society appropriated \$10,000 to the School, and out of several locations offered, a site of 200 acres belonging to a farm of Gen. James Irwin, in Center County, with a donation of \$10,000 from the County to secure 200 acres adjoining in addition, was accepted. In 1856, a bequest of Elliot Cresson of Philadelphia was received,—subscriptions in aid of the College were solicited, and promises obtained; and in May, 1857, an appropriation of \$50,000 was obtained from the State, on condition that a like amount should be raised by subscription.

With the cash resources already secured of \$25,000 from the State, and \$25,000 from other sources, contracts for building were made, which required at least double the amount for their completion. This additional sum was not raised—the buildings were not completed after the original plan—the school was opened on the 16th of February, 1859, under difficulties and disadvantages, which those only who have had experience in such pioneer work can appreciate. Buildings were only partially finished, and wholly unequipped with the furniture and apparatus of instruction, as well as for the domestic comfort of pupils and professors. The teaching force was inadequate—the farm was rough, and the site of a building in the process of construction, and with no funds in the treasury either to go on or wind up, presented much inconvenience as well as a forlorn aspect to students and visitors. But the printed Catalogue for the year 1859, shows an attendance of 123 pupils, and the report of a special committee of the State Society, appointed in May, 1859, to visit the institution, speaks favorably of what was doing, and hopefully of the future. On the strength of that report the Society, on the 17th of Jan. 1860, voted \$1500 in aid of the School.

On the 7th day of December, 1859, Evan Pugh, Ph. D., was appointed president, and discharged the duties of professor of chemistry and scientific and practical agriculture. Dr. Pugh had studied in the Agricultural and Mining Schools of Germany,—was a man of practical views and indomitable energy, and while administering the government and instruction of nearly two hundred pupils, under every disadvantage, found time to aid those who were urging an application to the legislature for additional help, which on the 10th of April, 1861, was granted to the extent of \$50,000. With this sum the buildings were completed, and in 1863, (April 1,) the legislature assigned the U. S. land-scrip for 720,000 acres of public lands to the institution, the name of which had been changed in 1862 to the Agricultural College of Pennsylvania. The death of Dr. Pugh, in the spring of 1864,—the disturbed condition of every great interest in consequence of the war, and a change in the practical character of the institution, for a time diminished the attendance of pupils. From this depression the College has not yet recovered.

In 1867, W. H. Allen, LL. D., the successor of Dr. Pugh, resigned, and Gen. John Frazer was appointed president, and professor of Analytical Mechanics; and the whole plan of instruction was changed so as to include not only a scientific course in Agriculture, but Mechanical and Civil Engineering, and Metallurgy, Mineralogy and Mining. In a circular of the Board of Trustees, dated June 24, 1867, the present organization and course of instruction is set forth in great detail, from which we make the following statement:

PRESENT ORGANIZATION.

TRUSTEES.

The trustees for 1868, are as follows:

His Excellency J. W. GEARY, Governor; Hon. F. JORDAN, Secretary of State; Hon. A. BOYD HAMILTON, President of the State Agricultural Society; and JOHN FRASER, President of the Faculty, *ex-officiis*; and the following elected members, viz.: DANIEL KANE, H. N. McALLISTER, A. McALLISTER, A. O. HIESTER, J. KELLEY, B. M. ELLIS, F. WATTS, J. MILES, and C. BIDDLE. The President of the Board is Hon. F. WATTS.

FACULTY.

The Professors are JOHN FRASER, President, and Professor of Analytical Mechanics, Logic, and Psychology; GEORGE C. CALDWELL, Chemistry; HENRY J. CLARK, Zoölogy and Geology; JOHN PHIN, Agriculture; J. Y. McKEE, Greek; F. FOWLER, English; and J. T. ROTHROCK, Botany, Anatomy and Physiology.

There are also nine other lecturers and tutors, etc.

Two new professorships have been instituted in order to carry out more fully the requirements of the congressional grant,—namely a professorship of Mechanical and Civil Engineering, and a professorship of Metallurgy, Mineralogy and Mining.

COURSES OF STUDY.

Five courses of study are now announced;

1. In General Science, leading to the degree of Bachelor of Science.
2. In Agriculture, leading to the degree of Bachelor of Agriculture.
3. In Mechanical and Civil Engineering, leading to the degree of Civil Engineer.
4. In Metallurgy, Mineralogy and Mining, leading to the degree of Mining Engineer.
5. In Literature, leading to the degree of Bachelor of Arts.

I. *Course in General Science.*

FRESHMAN CLASS.

First Term.—Algebra; English—Orthœpy, Orthography, Composition, and Elocution; French or German; Botany; Human Anatomy and Physiology.

Second Term.—Geometry; English—General Grammar, Composition, and Elocution; French or German; Botany; Human Anatomy and Physiology.

Practicum during the year.—Elementary Laboratory Practice in Chemistry; Laboratory and Field Practice in Botany.

SOPHOMORE CLASS.

First Term.—Zoölogy; Trigonometry, Surveying and Levelling; Principles and Practice of Road making; English—Etymology, Composition and Original Declamations; French or German; Drawing.

Second Term.—Zoölogy; Analytical Geometry; Descriptive Geometry and Perspective; English—Synonyms, Composition, and Original Declamations; French or German; Drawing.

Practicum during the year.—Laboratory and Field Practice in Zoölogy; Office and Field Practice in Surveying, Levelling, and Road Making.

JUNIOR CLASS.

First Term.—Physics; Mechanics; Geology; English Literature and History of the English Language.

Second Term.—Physics; Mechanics; Geology; Logic; English Literature, Prosody, and History of the English Language.

Practicum during the year.—Laboratory and Field Practice in Geology; Higher Laboratory Practice in Chemistry.

SENIOR CLASS.

First Term.—Political Economy; Rhetoric; English Drama, and History of English Literature; Mental Philosophy; Astronomy; General Chemistry—Lectures with Experiments.

Second Term.—Civil Liberty and Self-Government; Constitution of the United States; Moral Philosophy; Physical Geography; Astronomy; English Poetry, and History of English Literature.

Practicum during the year.—Office and Field Practice in Astronomy; Laboratory and Field Practice, in connection with special studies in Zoölogy, Geology and Botany.

II. Courses in Agriculture.

JUNIOR CLASS.

First Term.—Botany; Human Anatomy and Physiology; English—Orthoepy, Orthography, Composition, and Elocution; French or German; Algebra.

Second Term.—Botany; Human Anatomy and Physiology; Geometry; English—General Grammar, Composition and Elocution; French or German.

Practicum during the year.—Laboratory and Field Practice in Botany; Elementary Laboratory Practice in Chemistry.

MIDDLE CLASS.

First Term.—Agriculture—Physical and Chemical characters of Soils, Tillage, Drainage, &c.; Zoölogy; Trigonometry, Surveying and Levelling; Principles and Practice of Road Making; English—Etymology, Composition, and Original Declamations; French or German; Drawing.

Second Term.—Agriculture—The Nutrition of Plants; Farm Manures, method of collecting and managing; Artificial Manures; Zoölogy; English—Synonyms, Composition, and Original Declamations; French or German; Drawing.

Practicum during the year.—Management of Manures, and Field Practice in Agriculture; Laboratory and Field Practice in Zoölogy; Office and Field Practice in Surveying, Levelling, and Road Making.

SENIOR CLASS.

First Term.—Agriculture—Character and Management of Grain, Forage, Root, Tuber and Fibre Crops; Rotation of Crops; The Management, Breeding, Fattening, &c., of Stock; Physics; Geology; Mechanics.

Second Term.—Agriculture—Management of Stock, continued; Farm Buildings; Agricultural Implements; Veterinary Surgery and Medicine; Physics; Geology; Agricultural Law.

Practicum during the year.—Laboratory Practice in Analysis of Manures and of Agricultural Products; Field Practice in Agriculture.

III. Course in Mechanical and Civil Engineering.

FRESHMAN CLASS.

First Term.—Algebra; Botany; Human Anatomy and Physiology; English—Orthoepy, Orthography, Composition, and Elocution; French or German.

Second Term.—Geometry; Botany; Human Anatomy and Physiology; English—General Grammar, Composition and Elocution; French or German.

Practicum during the year.—Laboratory and Field Practice in Botany; Elementary Laboratory Practice in Chemistry; Laboratory Practice in Mensuration, Graduation of Scales, Verniers, &c.

SOPHOMORE CLASS.

First Term.—Trigonometry, Surveying and Levelling; Principles and Practice of Road Making; Zoölogy; English—Etymology, Composition, and Original Declamations; French or German; Drawing.

Second Term.—Analytical Geometry; Descriptive Geometry and Perspective; Zoölogy; English—Synonyms, Composition, and Original Declamations; French or German; Drawing.

Practicum during the year.—Laboratory and Field Practice in Zoölogy; Office and Field Practice in Surveying, Levelling and Road Making.

JUNIOR CLASS.

First Term.—Physics; Calculus; Mechanics; Geodesy; Geology; Drawing; English Literature and History of the English Language.

Second Term.—Physics; Calculus; Mechanics; Geodesy; Geology; Drawing; English Literature, Prosody, and History of the English Language.

Practicum during the year.—Office and Field Practice in Topographical Surveying; Higher Laboratory Practice in Chemistry.

SENIOR CLASS.

First Term.—Analytical Mechanics; Machines; Constructions; Astronomy; Political Economy; Drawing; General Chemistry—Lectures with Experiments.

Second Term.—Analytical Mechanics; Machines; Constructions; Astronomy; Civil Liberty and Self-Government; Constitution of the United States; Drawing; General Chemistry—Lectures with Experiments.

Practicum during the year.—Office and Field Practice in Engineering and Practical Astronomy; Office Practice in Designs, Models, and Charts.

IV. Course in Metallurgy, Mineralogy and Mining.

FRESHMAN CLASS.

First Term.—Algebra; Botany; Human Anatomy and Physiology; English—Orthöpy, Orthography, Composition and Elocution; French or German.

Second Term.—Geometry; Botany; Human Anatomy and Physiology; English—General Grammar, Composition and Elocution; French or German.

Practicum during the year.—Laboratory and Field Practice in Botany; Elementary Laboratory Practice in Chemistry; Laboratory Practice in Mensuration, Graduation of Scales, Verniers, &c.

SOPHOMORE CLASS.

First Term.—Trigonometry, Surveying and Levelling; Principles and Practice of Road Making; Zoölogy; English—Etymology, Composition, and Original Declamations; French or German; Drawing.

Second Term.—Analytical Geometry; Descriptive Geometry and Perspective; Zoölogy; English—Synonyms, Composition and Original Declamations; French or German; Drawing.

Practicum during the year.—Laboratory and Field Practice in Zoölogy; Office and Field Practice in Surveying, Levelling and Road Making.

JUNIOR CLASS.

First Term.—Physics; Calculus; Mechanics; Geology; Mining; Drawing; English Literature and History of the English Language.

Second Term.—Physics; Calculus; Mechanics; Geology; Mining; Drawing; English Literature, Prosody, and History of the English Language.

Practicum during the year.—Laboratory and Field Practice in Geology, with a special reference to Mining; Higher Laboratory Practice in Chemistry.

SENIOR CLASS.

First Term.—Metallurgy; Mineralogy; Mining; Machines; Astronomy; Political Economy; Drawing; General Chemistry—Lectures with Experiments.

Second Term.—Metallurgy; Mineralogy; Mining; Machines; Astronomy; Civil Liberty and Self-Government; Constitution of the United States; Drawing; General Chemistry—Lectures with Experiments.

Practicum during the year.—Laboratory Practice in Metallurgy; Laboratory Practice in Analysis of Ores; Office Practice in Designs, Models, &c.

V. Course in Literature.

FRESHMAN CLASS.

First Term.—Livy; Latin Prose Composition; Cyropedia; Greek Prose Composition; Algebra; English—Orthœpy, Orthography, Composition and Elocution; Botany; Human Anatomy and Physiology.

Second Term.—Horace's Odes; Metrical Exercises and Latin Prose Composition; Herodotus; Greek Prose Composition; English General Grammar, Composition and Elocution; Geometry; Botany; Human Anatomy and Physiology.

SOPHOMORE CLASS.

First Term.—Cicero De Officiis; Latin Composition; Demosthenes; Select Orations; Greek Composition; Trigonometry, Surveying and Levelling; Zoölogy; English—Etymology, Composition and Original Declamations.

Second Term.—Horace; Epistles and Satires; Latin Composition; Thucydides; Greek Composition; Descriptive Geometry and Perspective; Zoölogy; English—Synonyms; Composition and Original Declamations.

JUNIOR CLASS.

First Term.—Tacitus; Latin Composition; Oedipus; Tyrannus; Greek Composition; English Literature; History of English Language; Geology; Physics; Mechanics.

Second Term.—Juvenal; Plato; English Literature; Prosody; History of English Language; Logic; Geology; Physics; Mechanics.

SENIOR CLASS.

First Term.—Cicero pro Cluentio; Prometheus of Aeschylus; Rhetoric; English Drama; History of English Language and Literature; Political Economy; Mental Philosophy; Astronomy; Chemistry—Lectures with Experiments.

Second Term.—History of Roman Classical Literature; History of Greek Classical Literature; English Poetry; History of English Language and Literature; Moral Philosophy; Astronomy; Chemistry—Lectures with Experiments.

TERMS OF ADMISSION.

Candidates for admission to the Freshman Class in General Science, in Mechanical and Civil Engineering, and in Metallurgy, Mineralogy and Mining, and to the Junior Class in Agriculture, must have attained the age of sixteen years, and will be examined in the following subjects, viz.:

Arithmetic; Algebra, through Simple Equations; English Grammar; The History of the United States; Elementary, Political and Physical Geography; Elementary Natural Philosophy.

Candidates for admission to the Freshman Class of the Course of Literature, must have attained the age of sixteen years, and will be examined in the following books and subjects, or their equivalents, viz.:

Arithmetic; Algebra, through Simple Equations; English Grammar; Geography; Harkness' Latin Grammar and Latin Reader; Cæsar De Bello Gallico; Cicero—Select Orations; Virgil—The Bucolics and the first four books of the Æneid; Latin Prosody; Hadley's Greek Grammar; Whiton's Companion Book; Xenophon's Anabasis; Homer's Iliad, four books.

EXPERIMENTAL FARM.

The Instruction in Agriculture is under the care of the Professor of Agriculture, who teaches this branch not only in its scientific relations to Chemistry, Vegetable and Animal Physiology and Zoölogy, but as an experimental science, having its own methods, and special means and objects of research.

In order the more fully to attain these ends, there is attached to this department a Model and Experimental Farm, on which experiments will be instituted to investigate various points connected with practical agriculture, such as the best system of rotation of crops, the most suitable manures for different crops, and the best methods of applying them, especially in connection with the rotation of crops, the best methods of managing stock, and of combining stock-raising with other branches of agriculture, and the best methods of plant-culture as applied to the productions of the garden, the field, and the pleasure-ground.

Every student in this department is required to assist in the work connected with these experiments, and to record the experiments in a memorandum book, which is examined from time to time by his instructor.

For the benefit of the farming community, an Agricultural Journal, under the editorship of members of the College Faculty, will be commenced in the course of the current year. In the Journal will be published the experiments made at this College, and at other places in the United States and in Europe, with other matters of interest to agriculturists.

MILITARY INSTRUCTION.

The College has received a large supply of arms and accoutrements from the Ordnance Department of the State of Pennsylvania, and has adopted the following course of Military instruction occupying four years.

FRESHMAN CLASS.

First Term.—The School of the Soldier; Army Regulations.

Second Term.—The School of the Soldier; Bayonet Exercise; Army Regulations.

SOPHOMORE CLASS.

First Term.—The School of the Company; Bayonet Exercise; Camp and Outpost Duty.

Second Term.—The School of the Company; Sword Exercise; Camp and Outpost Duty.

JUNIOR CLASS.

First Term.—The School of the Battalion; The Composition, duties and forms of Courts Martial and Military Boards.

Second Term.—The School of the Battalion; Artillery Drill; Lectures on Military Art and Science.

SENIOR CLASS.

First Term.—Artillery Drill; Target Practice; Field Fortification; Marches and Reviews.

Second Term.—Review Drills; Target Practice; Field Fortification; Lectures on Ancient and Modern Campaigns.

One hour daily, is given to Military instruction. In suitable weather, the whole hour is devoted to drill. In weather unfit for drill, the hour is spent in the study of the topics specified in the programme.

The students of the College Department, such as have conscientious scruples excepted, are required to go through this course of military instruction, and to provide themselves with a fatigue suit of dark blue cloth, to consist of a single breasted jacket, a vest, trousers, and regulation cap; with brass buttons of the pattern of the State of Pennsylvania.

MANUAL LABOR.

Every student, who may desire it, has the privilege of diminishing his College expenses by working for the College in whatever capacity his labor may be deemed serviceable by the President. The student will receive adequate compensation for the labor performed in pursuance of this rule.

RELIGIOUS EXERCISES.

Devotional exercises are held in the College Chapel every morning, and all the students are required to be present.

Religious services are held in the College Chapel every Sabbath afternoon, and all the students are required to attend, except such as may have special permission to attend worship elsewhere. Such permission can be obtained only by presenting to the President a written request therefor from the parent or guardian.

DEGREES.

The Degree of Bachelor of Science is conferred on students who have completed the course in General Science, have passed a satisfactory examination at the end of the course, and have prepared a dissertation on some scientific subject, approved by the Faculty.

The Degree of Bachelor of Agriculture is conferred on students who have completed the course in Agriculture, have passed a satisfactory examination at the end of the course, and have prepared a dissertation on some Agricultural subject, approved by the Faculty.

The Degree of Civil Engineer is conferred on students who have completed the course in Mechanical and Civil Engineering, have passed a satisfactory examination at the end of the course, and have prepared a dissertation on some subject connected with Mechanical and Civil Engineering, approved by the Faculty.

The Degree of Mining Engineer is conferred on students who have completed the course in Metallurgy, Mineralogy and Mining, have passed a satisfactory examination at the end of the course, and have prepared a dissertation on some subject connected with Mineralogy, Metallurgy or Mining, approved by the Faculty.

The Degree of Bachelor of Arts is conferred on students who have completed the course in Literature, have passed a satisfactory examination at the end of the course, and have prepared a dissertation on some Literary subject, approved by the Faculty.

EXPENSES.

Board and Room Rent, per term of 20 weeks, \$70; Tuition, \$50; Washing, \$5; Fuel, \$5; Total, \$130.

This bill must be paid in advance on entering. A strict compliance with this rule is required. Candidates for admission are required to pay, on entering, a matriculation fee of \$5.

The College is ten miles S. S. W. of Bellefonte, and can be reached by the Pennsylvania R. R. to Spruce Creek, or Tyrone. From Spruce Creek, by stage on Tuesday, Thursday and Saturday; and from Tyrone, by cars to Bellefonte twice a day, and hence by stage, or livery. It can also be reached by Philadelphia and Erie R. R. to Lock Haven, and hence to Bellefonte.

MICHIGAN STATE AGRICULTURAL COLLEGE.

NEAR LANSING.

HISTORY.

In the year 1855, the Legislature, in pursuance of the requirement of Article XIII, § II, of the Constitution of 1850, passed an act for the purchase of a farm and the endowment of a State Agricultural School; and after some modifications of the original plan, a tract of 670 acres was secured near Lansing, a building was erected, and in May, 1857, the institution was commenced with sixty-one scholars and six instructors. This institution was in a highly successful condition at the time when the National grant was made, and to its further endowment were directed the proceeds which are to come from the disposal of the land-scrip. The share of Michigan amounted to 240,000 acres, all of which has been located within the State for the benefit of the College, and none has yet been sold.

TRUSTEES.

The Trustees of the institution are as follows:

His Excellency, HENRY H. CRAPO, *ex-officio*, President of the Board; Hon. HEZEKIAH G. WELLS, of Kalamazoo, Vice President; Hon. DAVID CARPENTER, of Blissfield; Hon. JUSTUS GAGE, of Dowagiac; Hon. ABRAHAM C. PRUTZMAN, of Three Rivers; Hon. S. O. KNAPP, of Jackson; Hon. ORAMEL HOSFORD, of Olivet; T. C. ABBOT, A. M., *ex-officio*, President of the College; Hon. SANFORD HOWARD, Secretary; JOSEPH MILLS, of Lansing, Treasurer.

FACULTY.

The following persons are the instructors of the school:

T. C. ABBOT, *President*, Professor of Mental Philosophy and Logic; MANLY MILES, M. D., Professor of Animal Physiology and Practical Agriculture, and Superintendent of the Farm; R. C. KEDZIE, A. M., M. D., Professor of Chemistry; ALBERT M. PRENTISS, M. S., Professor of Botany and Horticulture, and Superintendent of the Gardens; SANFORD HOWARD, Secretary; GEORGE T. FAIRCHILD, A. M., Professor of English Literature; ALBERT J. COOK, M. S., Instructor in Mathematics; W. W. DANIELLS, B. S., Assistant Professor of Chemistry. S. S. ROCKWELL, Steward; ALBERT F. ALLEN, M. S., Foreman of the Farm; GEORGE W. HARRISON, B. S., Assistant Foreman of the Farm.

STUDENTS.

The number of students has been as follows:—In 1859, 105; 1860, 51; 1861, 65; 1862, 74; 1863, 52; 1864, 61; 1865, 88; 1866, 108; 1867, 97.

GENERAL OBJECTS OF THE COLLEGE.

The State Agricultural College proposes—

1st. To impart a knowledge of science, and its application to the arts of life. Especially are those sciences which relate to Agriculture and the kindred arts, such as Chemistry, Botany, Zoölogy and Animal Physiology, prosecuted to a

much greater extent than in institutions where the study of their practical applications is not pursued. The instruction given in the lecture-room is illustrated and enforced by the actual and prolonged study of plants and animals, and of the various practices and experiments of the farm and garden. Students will be taught to distinguish clearly between those principles and settled rules of agriculture, in accordance with which they may safely proceed, and those theories or practices which are either exploded, or are as yet the proper objects of experiment and discussion only, but whose too hasty adoption has led to repeated failures, and to the discredit of science.

2d. To afford to its students the privilege of daily manual labor. As this labor is to some degree remunerated, it might seem intended only to lessen the expense of the student. Its first use, however, is educational, being planned and varied for the illustration of the principles of science. The preservation of health, and of a taste for the pursuit of agriculture, are two other important objects. It is well known that students who pursue a college course very seldom thereafter engage in any industrial pursuit. Four or six years of study without labor, wholly removed from sympathy with the laboring world, at the period of life when habits and tastes are rapidly formed, will almost inevitably produce a disinclination, if not inability, to perform the work and duties of the farm. But to accomplish the objects of the institution, it is evident that the students must not, in acquiring a scientific education, lose either the ability or the disposition to labor on the farm. If the farmer, then, is to be educated, he must be educated on the farm itself; and it is due to this large class of our population that facilities for improvement, second to none other in the State, be afforded them.

It is believed that the three hours' work that every student is required to perform on the farm or in the garden, besides serving to render him familiar with the use of implements and the principles of agriculture, is sufficient also to preserve habits of manual labor, and to foster a taste for agricultural pursuits. It has been found in the past, sufficient to keep the students interested in every department of farm and horticultural work; and the daily labor of each one being performed at one time, does not occupy him longer than is requisite for preserving health and a robust constitution.

3d. To prosecute experiments for the promotion of agriculture. Agriculture is the creature of experiments. Very few farmers possess facilities for carrying on experiments accurately, and to definite results. From a lack of general acquaintance with the laws of Nature, their experiments, generally, unless guided by scientific men, are comparatively valueless for the determination of vexed questions of practice, and the establishment of general principles. An extensive laboratory, and other means at hand, enable the institution to enter on a series of experiments, to be prosecuted systematically and continuously from year to year.

4th. The organic law of the College, as well as the act of Congress donating lands for Agricultural Colleges, contemplate courses of instruction in the military art, and in the applications of science to the various arts of life. The practical applications of science are at present pursued mostly in directions desirable to the farmer—as surveying, leveling, laying out of grounds, mechanics as applied to implements, buildings, stock-breeding, etc. Other departments will be organized whenever adequate means are secured, whether from the Agricultural land fund, or from other sources.

5th. To afford the means of a general education to the farming class. This the Agricultural College endeavors to supply. The labor system preserves the student's health, and the habits and love of wholesome work. The professional part of the course gives him an insight into the nature of the objects and forces with which he has to deal. Added to this are the branches of study which help to make an intelligent and useful citizen, which cultivate his taste, and enable him to give expression to his knowledge and opinions.

REQUIREMENTS FOR ADMISSION.

Candidates for admission into the Preparatory Class must be not less than fourteen years of age, and must sustain a satisfactory examination in Arithmetic, Geography, Grammar, Reading, Spelling, and Penmanship.

Candidates for admission into the Freshman Class, or for any advanced standing, must sustain an examination in all the previous studies of the course.

DEPARTMENTS OF INSTRUCTION.

ELEMENTARY CHEMISTRY.—The primary forces—Heat, Light, Electricity, Magnetism, etc.; Chemical affinity and the laws of chemical combination; Elementary Substances—their history, properties, combinations and uses; application of Chemistry to the Arts and Manufactures; Organic Chemistry. In the study of Elementary Chemistry, the facts and principles of the science are illustrated by experiments.

ANALYTICAL CHEMISTRY.—General Analysis; Analysis of Soils; Analysis of Minerals, use of the Blow-pipe; Analysis of Manures; Analysis of the Ashes of Plants; Alkalimetry and Acidimetry. In prosecuting Chemical Analysis, the student spends three hours a day in the Laboratory, under the direction and supervision of the Professor in Chemistry, applying with his own hands the tests required to determine the composition and properties of bodies, thus securing a practical knowledge of the methods employed in these investigations.

AGRICULTURAL CHEMISTRY.—Formation and composition of soils; the relations of air and moisture to vegetable growth; Connection of heat, light and electricity with growth of plants; Nature and source of food of plants; Chemical changes attending vegetable growth; Chemistry of the various processes of the farm, as plowing, fallowing, draining, etc.; Preparation, preserving and composting of manure; Artificial manure; Methods of improving soils by chemical means, by mineral manures, by vegetable manures, by animal manures, by indirect methods; Rotation of crops; Chemical composition of the various crops; the Chemistry of the dairy. The instruction in Chemistry is imparted both by lectures and text-books.

PRACTICAL AGRICULTURE.—*First Year.*—Laying out of farms; Arrangement and planning of farm buildings; Farm implements; General principles of tillage; Principles of draining; Laying out and construction of drains; Methods of seeding; Harvesting of crops; Principles of stock-breeding; Breeds of domestic animals—their characteristics and adaptation to particular purposes.

Fourth Year.—General principles of farm economy; Manures, their management and mode of application; Succession of crops; Preparation of the soil for particular crops; Cultivation of crops; Management of grass lands; Stock-husbandry; Care of animals and principles of feeding; Fattening of animals; Management of sheep. In addition to the above course, instruction is given in the field in the various manual operations of the farm.

BOTANY.—A course is first given in Physiological Botany; Systematic Botany is then taken up, the natural orders being studied as to their botanical characteristics; their size and geographical distribution; their relative importance; the genera and species having agricultural value; those having commercial or medical value; those having ornamental value; and those which are obnoxious or detrimental, as weeds or poisonous plants. The orders are illustrated by diagrams, and numerous living and dried specimens. The living specimens are dissected and examined by the student, and their genera and species determined. The indigenous plants, together with those cultivated in the gardens and grounds, afford material for the study of this department of botany. In the study of Vegetable Physiology, structure is illustrated by means of diagrams. Several excellent microscopes are used in the study of minute structure.

HORTICULTURE.—In the course in Vegetable Physiology, the relations of that science to Horticulture are pointed out. The Sophomore class being employed during the year in the gardens and college grounds, is afforded abundant opportunities for the application of the instruction received in the class-room. It is intended that each student shall have practical experience in every cultural operation. In addition to these methods of instruction, a course of lectures is given on the history, theory and practice of horticulture.

ANIMAL PHYSIOLOGY.—In this department, particular attention is given to the Anatomy and Physiology of domestic animals. The course is illustrated by anatomical preparations and diagrams, representing the comparative structure of the organs of locomotion, digestion, circulation, respiration and reproduction of each branch of the animal kingdom. Dissections of animals are made, to render the student familiar with the appearance, situation and relation of the organs of the animal system in a state of health, and the changes produced by disease. Opportunities are given for the study of the minute structure of the various tissues by means of the microscope.

ZOOLOGY.—Principles of the classification of animals, as founded on their structure and embryonic development. Descriptive Zoölogy, comprising the systematic arrangement of animals in accordance with their natural affinities, in classes, orders, families, etc.; habits and geographical distribution of animals.

ENTOMOLOGY.—The course in Entomology is illustrated by a valuable collection of native and exotic insects. Particular attention is given to the study of species injurious to vegetation; and the best method of checking their ravages is discussed. Students, by collecting and preserving specimens of our native species, become familiar with their habits in their several stages of development.

MATHEMATICS AND CIVIL ENGINEERING.—The Preparatory Class spend some time in the review of Arithmetic. The following branches of Mathematics and their application follow: Algebra, Geometry, Plane Trigonometry, Spherical Trigonometry, Analytical Geometry, Surveying, Leveling, Plotting, Mechanics, Strength of Materials, Arches, Framing, Bridge and Road Building. Students have the use of chain, compass, and other instruments for practice; and receive instruction in the field as well as in the lecture-room, each student being required to take charge of field surveys, and to become practically acquainted with the use of the Level.

GEOLOGY.—A course of daily recitations in Geology during the second half of the Freshman year, is illustrated by maps, diagrams and specimens.

ENGLISH LITERATURE. Instruction in this department is given by means of text-books and lectures. Rhetoric—Style. History of English Literature. Rhetoric—Arguments, Conviction, Persuasion, Fallacies in Reasoning. Select portions of English Classics receive critical examination in a course of reading prescribed for each class. The classes have regular and systematic instruction in the art of the selection, arrangement and expression of the matter related to the assigned or chosen topics for composition.

PREPARATORY.—The Preparatory course is designed, by a review of the ordinary branches of a common school education, to prepare the student to enter upon the regular College course of study. It serves also to qualify him to teach during the winter months.

COURSE OF STUDY.

PREPARATORY CLASS.

First Half Year.—Arithmetic, Robinson's Higher; Descriptive Geography, Mitchell's School; English Grammar, Green's.

Second Half Year.—Algebra, Robinson's Elementary; Natural Philosophy, Olmsted's School; Composition, Quackenbos'.

College Course.—FRESHMAN CLASS.

First Half Year.—Algebra, Robinson's; History, Webber's; Geometry, Robinson's; Book-keeping, Bryant & Stratton's.

Second Half Year.—Trigonometry, Robinson's; Surveying, Davies'; Practical Agriculture; Geology, Dana's.

SOPHOMORE CLASS.

First Half Year.—English Literature, Chambers', Spaulding's; Botany, Gray's; Elementary Chemistry, Youmans'.

Second Half Year.—Entomology, Harris'; Analytical Chemistry, Fresenius; Botany, Gray's, Darlington's, Lindley's; Horticulture.

JUNIOR CLASS.

First Half Year.—Physics, Snell's Olmsted; Agricultural Chemistry, Johnstone's; Inductive Logic, Herschel's.

Second Half Year.—Physics; Rhetoric, Whateley's, Day's Praxis; Animal Physiology, Dalton's.

SENIOR CLASS.

First Half Year.—Zoölogy, Carpenter's; Practical Agriculture; Mental Philosophy, Wayland's; Astronomy, Snell's Olmsted; Landscape Gardening, Downing's, Kemp's.

Second Half Year.—Civil Engineering, Mahon's; Moral Philosophy, Haven's; Political Economy, Carey's, Walker's; French, Fasquelle's.

Declamations and Compositions throughout the entire course.

MANUAL LABOR.

Each student not exempt for physical disability, is required to labor three hours a day on the farm or in the gardens. The number of hours may be increased to four or diminished to two and a half. Some compensation (see means of defraying expenses) is allowed; but the labor is regarded as an essential part of the educational system of the College, and is performed with special reference to illustrating and applying the instruction of the lecture-room. Students are not employed in those kinds of work only in which they may be most proficient, but, as the work is classified, each is made acquainted with all the operations of farming and gardening. The Sophomore Class work the

entire year under the direction of the Professor of Horticulture. The Juniors spend the year under the direction of the Professor of Practical Agriculture. The other classes alternate between the farm and gardens.

MEANS OF ILLUSTRATION.

1. A farm of 676 acres, of which about 300 are under cultivation. 2. Botanical gardens of trees, shrubs, and herbaceous plants. 3. Vegetable gardens, small fruit garden, apple orchard, pear orchard, general lawn and grounds. 4. Galloway, Ayrshire, Devon and Short Horn Cattle; Essex, Suffolk and Chester White Swine; Southdown, Cotswold, Spanish Merino and Black-faced Highland Sheep. 5. A Chemical Laboratory and Apparatus. 6. Philosophical and Mathematical Apparatus. 7. A Museum of Animals and Minerals. 8. The Cooley Herbarium—a very valuable collection of plants. 9. Museum of Vegetable Products. 10. Library and Reading Room. 11. Buildings, Workshops, Tools, etc.

DEGREES.

The Degree of Bachelor of Science is conferred upon students who complete the full College Course, and sustain all the half yearly examinations in the same.

The Degree of Master of Science is conferred upon graduates of three years' standing, who give evidence of having been engaged during that period in scientific studies.

EXPENSES.

Tuition is free to all students from this State. Students from other States are charged \$20 a year for tuition.

Board and washing are furnished at College Boarding Hall, (where students are required to board, unless permission to board elsewhere is granted by the Faculty,) at cost. The cost of board the past season has been \$2.60; washing, 42 cents per dozen. Room-rent for each student is \$4 a year, paid quarterly, in advance. Rooms are furnished with bedsteads and stoves; students furnish everything else. Mattresses and pillows may be rented of the College. The cost of furniture for rooms will vary with the taste of the students occupying them. Rooms can be comfortably furnished at a cost not exceeding four or five dollars for each student. A matriculation fee of \$5, entitles the student to the privileges of the whole course. This fee is appropriated to the increase of the Library. At the opening of the year each student is required to pay to the Secretary \$10, as an advance on board, which is allowed in the settlement of accounts at the end of the year.

Students receive remuneration for the labor they perform, the amount paid depending on their ability and fidelity. The highest wages for the present year have been seven and one-half cents per hour. The lowest rates do not exceed two or three cents per hour, if the student fails to render more valuable service. The wages for labor are applied on their board, in the quarterly settlements.

The winter vacation affords the student an opportunity for teaching. These earnings, added to the wages received during the term, will, if he is industrious and economical, enable him to defray a large part of his College expenses.

The report of the President, T. C. Abbot, for the year 1866, (30 pp., 8vo.) presents a full summary of the operations of the institution, with an able discussion of the various features which have here been successfully developed.

MARYLAND AGRICULTURAL COLLEGE.

PRINCE GEORGE COUNTY. *Hyattsville P. O.*

I. HISTORICAL DEVELOPMENT.

THE MARYLAND AGRICULTURAL COLLEGE is the result of a public sentiment in the State in favor of such an institution which began to be exhibited more than twenty years ago. In 1845 the Board of Visitors and Governors of the Frederick County Academy established a Department of Agricultural Chemistry, and appointed Professor William Baer to fill it. In 1847, George D. Coad, Esq., chairman of the Committee of Agriculture in the House of Delegates of Maryland, in an able report recommending the appointment of an Agricultural Chemist for the State, expressed the hope that there would soon be "courses of agricultural education in the public academies and schools, or schools for that special purpose established."

In 1848, at the first anniversary meeting of the Maryland State Agricultural Society, the orator of the occasion, Col. Wilson M. Cary, urged "the necessity of professional education for the future farmers of the State," and "the introduction of those sciences immediately connected with their pursuit, into our colleges and seminaries of learning."

In 1850, Dr. White, of Montgomery county, introduced into the House of Delegates a proposition to enquire into the expediency of requiring the academies of the State which receive aid from the public treasury, to provide for instruction in Geology and Agricultural Chemistry. About the same time, Hon. Wm. Williams, President of the Senate of Maryland, offered to the State Agricultural Society one hundred and fifty acres of land in Somerset county, for the purpose of establishing an Agricultural College.

In 1854, Ramsey McHenry, as chairman of a committee of the State Agricultural Society, prepared an address "to the citizens of Maryland and contiguous States," urging the establishment "in connection with an experimental farm, of an educational institution to be entitled "The Agricultural College of Maryland." In the same year James T. Earle, in behalf of the State Society, addressed a memorial to the Congress of the United States, which was endorsed by the Committee on Agriculture of the U. S. Senate, and embodied in an able report of Mr. Morton, the chairman. Mr. Earle's associates on the committee were Oden Bowie, Governor of the State in 1868, Col. George W. Hughes, Clement Hill, and Francis P. Blair, aided by Hon. Charles B. Calvert, member of Congress. The specific recommendation of the memorial was the purchase of Mt. Vernon and establishing there, under the auspices of the Government, a National Agricultural and Educational Institution.

The prevailing sentiment indicated by these and many other expressions of interest in behalf of agricultural education, led to the belief that a large sum might be realized from individual subscriptions towards founding an Agricultural College, and application for a charter was made to the State Legislature of

1856, which was granted, and James T. Earle, John O. Wharton, Nicholas B. Worthington, Charles B. Calvert, George W. Hughes, Walter W. W. Bowie, Ramsay McHenry, J. Carroll Walsh, and Allen B. Davis, were appointed commissioners by whom subscriptions were to be obtained to the stock of the College.

The conditions of the charter required that a sum not less than fifty thousand dollars be subscribed to the stock within two years from July 1st, 1856, and a Board of Trustees elected, land obtained and buildings erected, and these conditions being complied with, the sum of \$6,000 was to be paid annually by the State towards the expenses of the institution.

Within the prescribed time the sum of fifty-three thousand dollars was subscribed, a Trustee was elected from each county, and one from the city of Baltimore, to whom were added the same year, one Trustee from the District of Columbia, one from the Eastern shore of Maryland, and one from the Western shore: a farm of 425 acres was purchased, (since reduced by sale to 283 acres,) in Prince George County, and during the following year the main College building was erected, at a cost of about \$46,000, and a total investment for land and buildings of about \$100,000.

The College was open for students in October, 1859, and its catalogue for the first collegiate year numbered sixty-five, one-third of whom were from other States. At the commencement of the war, in 1861, the number was reduced to seventeen, and great embarrassment and difficulty resulted from this falling off, and from a burden of debt which had accumulated in the erection and furnishing of the College building, and the equipment of the farm.

The year following the number of students increased again, and in 1864 equaled that of the first year. Financial difficulties, however, continued to embarrass the affairs of the institution, and were further increased by the burning of a fine barn, with all its contents, and by the destruction of a large quantity of fencing and provender during the war. Finally, the necessity of closing at an early period seemed so obvious, that students were withdrawn in anticipation of it, and precipitated that misfortune, which was realized in April, 1866.

In this condition of affairs the Legislature came to its aid, and made the State joint owner of the property by paying its whole indebtedness, which amounted to \$45,000, and assigning to its use the proceeds of the United States land-scrip to which Maryland became entitled by accepting the conditions of the act of 1862. The two hundred and ten thousand acres, to which this grant to the State amounted, was sold by the Comptroller, with the sanction of the Treasurer and the Governor, at the average price of 53 cents per acre, and yielded \$112,504. Ten per cent. of this amount, i. e. \$11,250, was "reserved to be paid into the treasury of the State, to reimburse the said State in part for the amount appropriated by this act to the said Maryland Agricultural College"—that is, the \$45,000, by paying which to the creditors of the College the State became owner of one-half of the College real estate. This deduction left \$101,253, of which \$100,000 has been invested in Maryland State Stock, yielding six per cent., and the balance will be probably similarly bestowed. The income will therefore be \$6,075, payable semi-annually, beginning with Jan. 1, 1868.

II. PRESENT ORGANIZATION AND CONDITION.

When the State became joint owner of the property by discharging the indebtedness of the institution, the Board of Visitors was reorganized by giving

to the stockholders seven, and to the State four members, viz: the Governor, Lieutenant Governor, Speaker of the House, and the Superintendent of Public Instruction. Of this Board, JAMES T. EARLE is President.

FARM AND BUILDING.

The large farm and grounds are located on both sides of the turnpike leading from Baltimore and Washington, three-quarters of a mile from College station on the Baltimore and Washington Railroad, and nine miles from Washington. P. O. address, Hyattsville, Prince George County.

The building is not yet completed on the original plan, but the present structure has six spacious lecture rooms, fifty-one chambers, a chapel, laboratory, and large accommodations for the domestic uses of the residents. There is besides, a residence for a Professor, with twenty-seven rooms for students.

INSTRUCTORS.

The President is CHARLES L. C. MINER, M. A., with the following Professors: NICHOLAS B. WORTHINGTON, A. M., Moral and Mental Philosophy, English Language and Literature, Rhetoric and Logic.

JAMES HIGGINS, A. M., M. D., Agriculture and Natural Sciences.

R. T. BOGUE, A. M., M. D., Adjunct “ “ “

BATTISTA LORINO, LL. D., Ancient and Modern Languages.

PHIL MOORE LEAKIN, A. M., Mathematics.

DANIEL BARKER, Practical Agriculture, Horticulture and Pomology.

COURSE OF INSTRUCTION.

In accordance with the more especial wants, at present, of the State of Maryland, the Scientific course is adapted more particularly to agriculture than to the mechanic arts, although the studies in the Elements of Chemistry, Analytical and Technical Chemistry, Natural Philosophy, Physical Geography, Mineralogy and Geology, belong alike to both. The daily lessons in the field, above-described, field lectures from the Professor, lessons in keeping farm notes and farm accounts, instruction in Agricultural Chemistry and Botany, Vegetable Anatomy and Physiology, in Entomology, and especially in the analysis of soils and manures, constitute the separate studies for farmers.

The Literary course is conformed mainly to the common College curriculum, but less time is given to the ancient languages, and more to the study of English and other modern languages, of Chemistry and Natural Philosophy.

MANUAL LABOR.

Manual labor has been a feature in the College discipline from its organization, and it is claimed that it has worked well. During the current session (of '67-8) it has not been required, but the students of agriculture have spent a part of each day in regular garden and field work, under the charge of the Superintendent of the farm, hearing his questions, comments and explanations, and having their attention called to the details of every agricultural process.

MILITARY TACTICS.

No military instruction has yet been given. Circumstances being temporarily unfavorable for it the Board of Trustees postponed providing for it until the College should be in the actual enjoyment of the revenue from the U. S. grant, when the requirement will be faithfully met.

MODE OF INSTRUCTION AND DISCIPLINE.

The general mode of instruction is by study of, and close questioning on, the best text-books, with comment, explanation, and supplementary oral instruction; with lectures for the more advanced students. In the Scientific schools opportunity is given to closely watch, and as much as possible, aid in the processes for illustration. A rigid system of marks in all studies, promptly rendered to parents each month, proves a great stimulus to exertion.

DOMESTIC LIFE.—TUITION.

Most of the Professors eat at the same table and lodge in the same house with the students, thus not only preventing the neglect of their health and comfort which so often occurs, but being brought into close and friendly contact with them, checking indiscretions which might otherwise grow into disorder, and exercising a wholesome influence upon their moral and intellectual growth.

Board is provided by the College. The sum of \$225 pays the board, lodging, washing, fuel and lights. The supplies for the table, drawn from the farm, garden, orchard and dairy, and the well-warmed and well-lighted rooms, with other liberal appointments, give the students a degree of healthful comfort very rarely seen in schools.

The charge for tuition is \$75 per annum, half at the beginning and half at the middle of the school session.

Sixty free scholarships, open only to citizens of Maryland, are provided for by the State's annual appropriation.

STATISTICS FOR 1867.

The following is the return, with remarks, made to the Legislature of Maryland by the Superintendent of Public Instruction, (Rev. L. Van Bokkelen, LL. D.,) in his Report for 1867:

"The Agricultural College, of which I am, *ex-officio*, a Trustee, is thoroughly reorganized and has an able Faculty. To enable this important institution to accomplish its special work, an appropriation for farm buildings and apparatus is needed. With such addition to its facilities and the income from the United States land-grant, making the annual revenue over \$12,000, there will be ample means for accomplishing the purposes of the institution which have not been thus far obtained.

STATISTICS FOR 1867.—State donation, \$6,000. Salaries of Professors, \$10,000. Students, 11. Tuition per annum, \$75. Board per month, \$22.50. Value of Property, \$90,000. Volumes in Library, \$1,600. Value of Apparatus, \$500. Acres of land, 283. The College and agricultural equipments, the value of which is not estimated. During the year 1868, the College will have an additional annual revenue of \$6,000 from sale of United States land-scrip."

BIBLIOGRAPHY.

1854. Address to the citizens of Maryland on an Experimental Farm and College of Agriculture. Memorial of the State Agricultural Society to the Congress of the United States for a National Agricultural Institution.

1858. Report of Register, with Act of Incorporation, List of Officers, and Names of Subscribers. 24 pages.

1859. First Circular of Maryland Agricultural College.

1864. Report of Trustees to Legislature of Maryland. 16 pages.

1865. Catalogue of Maryland Agricultural College for 1865-66. 16 pages.

NEW HAMPSHIRE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

HANOVER.

HISTORY.

IN New Hampshire the proceeds arising from the sale of 150,000 acres of scrip, assigned to the State, were appropriated by an act approved July 7, 1866, to the "New Hampshire College of Agriculture and the Mechanic Arts," to be established in connection with Dartmouth College at Hanover.

The scrip was sold prior to December 1867, for the sum of eighty thousand dollars, that is at the price of fifty-three and one fifth cents per acre, and the proceeds invested in six per cent. state bonds. The trustees of the institution are nine in number, five of them appointed by the Governor and Council and four by the Trustees of Dartmouth College. In consideration of this arrangement and the establishment of the college at Hanover, Dartmouth College furnishes the use of an experimental farm, the requisite buildings, and the libraries and apparatus, &c. This connection with the college may be terminated, on notice of one year, given by either party in the month of July 1874, or at any time after the termination of fourteen years from the beginning of the connection. A contract, embodying these provisions, has been signed by the two bodies of Trustees, but there are still some details to be settled, which delay the opening of the school.

The first meeting of the Board, for organization and the transaction of business, was held in the city of Concord, on the 28th of September, 1866. The Governor and Council had appointed the five following trustees: Hon. John D. Lyman, of Farmington, Joseph B. Walker, Esq., of Concord, William P. Wheeler, Esq., of Keene, John B. Clark, Esq., of Manchester, and Chester C. Hutchins, Esq., of Bath. The Trustees of Dartmouth College had appointed, on their part, Rev. Asa D. Smith, D. D., His Excellency, Frederick Smyth, Hon. Ira A. Eastman, and Hon. Anthony Colby. The Hon. Ira A. Eastman, however, declined to serve. The Board organized by electing the Rev. Asa D. Smith, D. D., as President, Joseph B. Walker, Esq., as Secretary, and His Excellency, Frederick Smith, as Treasurer. They have since appointed an Executive Committee, consisting of the President, Hon. John D. Lyman, and William P. Wheeler, Esq.

The trustees have announced that the instruction will be comprehensive of the various branches of applied science, and will extend through a course of four years duration. The requisites of admission will be "a mastery of the branches usually taught in our Common Schools." Twelve students, one from each senatorial district will receive gratuitous instruction. A report of these preliminary arrangements, including a copy of the contract between the two colleges was published in June 1867. (Concord, 12 pp., 8vo.)

In addition to the ordinary resources of a New England College, Dartmouth was able to offer for the basis of the national school of science, the advantages of the "Chandler Scientific Department," and of the "Thayer School of Architecture and Civil Engineering," and of a prospective agricultural bequest.

THE CHANDLER SCIENTIFIC DEPARTMENT was established by a resolution of the Trustees, in acceptance of the sum of fifty thousand dollars, bequeathed to them in trust by ABIEL CHANDLER, Esq., late of Walpole, and formerly of Boston, Mass.

Mr. Chandler gives and devises the above sum to the Trustees of the College, "to carefully and prudently invest or fund the principal sum, and faithfully apply and appropriate the income and interest thereof for the establishment and support of a permanent department, or school of instruction, in the College, in the practical and useful arts of life, comprised chiefly in the branches of Mechanics and Civil Engineering, the Invention and Manufacture of Machinery, Carpentry, Masonry, Architecture and Drawing, the Investigation of the Properties and Uses of the Materials employed in the Arts, the Modern Languages and English Literature, together with Book-keeping, and such other branches of knowledge as may best qualify young persons for the duties and employments of active life."

Under this provision of this bequest, the Chandler Scientific Department was established in 1856, and a course of scientific instruction has since been maintained, with opportunities of laboratory practice.

THE THAYER SCHOOL OF ARCHITECTURE AND CIVIL ENGINEERING is established on a donation of \$40,000, tendered to the Trustees, and accepted by them at their last meeting, by GEN. SYLVANUS THAYER, of Braintree, Mass., and the real organizer of the United States Military Academy at West Point. This munificence had its origin not merely in a regard, on the part of the venerable donor, for his Alma Mater, but in a foresight of the large demand for high attainments in this particular line, which the unfolding material resources of our Country are sure to make; and in a conviction that an increasing number of our young men are disposed to select it as their profession. The Department is to be essentially, though not formally, post-graduate. The requisites for admission will, in some leading branches—particularly in Mathematics—embrace not less, and probably more, than the usual College curriculum. The course of study is to be of the highest order, passing beyond what is possible in Institutions for general culture, and is designed to prepare the capable and faithful student for the most responsible positions and the most difficult service. It will extend through at least two years, each divided into a Winter and Summer Term, and a portion of the latter being given to out-door practice. Temporary employment in Civil Engineering will occasionally be permitted, such as will conduce to the student's improvement, while it will be more or less remunerative. In the arrangement of details, reference will be had to the best methods, both in this country and in Europe. A suitable diploma will be given, on satisfactory examination, to those who complete the course.

VERMONT UNIVERSITY AND STATE AGRICULTURAL COLLEGE.

BURLINGTON.

VERMONT was entitled to five portions, or 150,000 acres in scrip. By an act of the Legislature, in 1864, the Vermont Agricultural College was established but by subsequent legislation this new institution was incorporated with the University of Vermont at Burlington, founded in 1791, and a plan was matured by which the Colleges at Middlebury and at Norwich might also become members of the State University. At present only the two first named institutions have been united. The first meeting of the Trustees was held Nov. 20, 1865, and on the 18th of July following, James B. Angell of Providence, was elected President.

FACULTY.

The Faculty of the entire University is as follows :

JAMES BURRILL ANGELL, A. M., President; Rev. JOSEPH TORREY, D. D., Professor of Moral and Intellectual Philosophy; SAMUEL WHITE THAYER, M. D., Professor of General and Special Anatomy; WALTER CARPENTER, M. D., Professor of the Theory and Practice of Medicine and Materia Medica; Rev. McKENDREE PETTY, A. M., Williams Professor of Mathematics; LEONARD MARSH, A. M., M. D., Professor of Vegetable and Animal Physiology; JOSEPH PERKINS, M. D., Professor of Obstetrics and Diseases of Women and Children; MATTHEW HENRY BUCKHAM, A. M., Professor of the Greek Language and Literature, and Professor *pro tempore* of English Literature; HENRY M. SHELLEY, M. D., Professor of Chemistry and Toxicology; CHARLES WHEELER THOMPSON, A. M., Professor *pro tempore* of Latin; JOHN ORDRONAU, M. D., LL. B., Professor of Physiology, Pathology and Medical Jurisprudence; ALPHEUS BENNING CROSBY, M. D., Professor of Principles and Practice of Surgery; ELI WHITNEY BLAKE, Jr., A. B., Professor *pro tempore* of Chemistry and Physics; JAMES HARVEY HILLS, Instructor in Drawing.

CLASSES OF STUDENTS.

The Scientific Department of the College is organized on the following basis. Instruction will be provided—

I. For students who wish to pursue a course of three years in Analytical and Agricultural Chemistry, or in Civil Engineering, or in Mining and Metallurgy, and to become candidates for the degree of Bachelor of Science. By a four years' study, hereafter described, Bachelors of Science may attain to the degree of Bachelor of Philosophy.

II. For students who do not desire to take a full course of three years, or of four years, but wish to pursue certain portions of the course.

III. For young men who desire to obtain such instruction as can be furnished them by a course of lectures specially adapted to the wants of agriculturists, and to be given in February and March.

REQUIREMENTS FOR ADMISSION.

Applicants for admission to the Agricultural College must be at least fifteen years of age, and must bring satisfactory testimonials of good character, and be able to sustain an examination in all the parts of a common school education, and particularly in English Grammar, Geography, Arithmetic, and Algebra as far as Quadratic Equations.

COURSE OF STUDIES FOR CANDIDATES FOR DEGREES.

The courses marked out for the candidates for the degree of Bachelor of Science occupy three years, and those for the candidates for the degree of Bachelor of Philosophy occupy four years. During the first year all the students pursue the same course. At the beginning of the second year they will select one of three prescribed courses for the following year, and will not be allowed to change from one course to another except by special permission of the Faculty. Examinations will be held in the same manner as in the Academic course.

FIRST YEAR.

For all Sections.

First Term.—Algebra; Chemistry; Free Drawing; Book-keeping.

Second Term.—Geometry; Chemistry; French.

Third Term.—Geometry; Chemistry; French.

English, Compositions and Declamations through the year.

Section of Analytical and Agricultural Chemistry.

SECOND YEAR.

Chemistry—Laboratory Practice, Applications to Agriculture, Analyses of Soils, Relations of Soils to Vegetable Productions, etc., etc. Mathematics—Trigonometry, Analytical Geometry. Mineralogy. Vegetable Anatomy and Physiology, including Botany, Forestry, etc.; Animal Anatomy and Physiology, Habits of Domestic Animals, Insects injurious to Vegetation, etc. Geology. English, Composition and Drawing. Advanced French (elective.)

THIRD YEAR.

Chemistry—Laboratory Practice, Mineral Analyses, etc. German, through the year. Mechanics, Optics, Astronomy. Physical Geography, Metallurgy. English, Compositions. Drawing.

Engineering Section.

(*First Year—see above.*)

SECOND YEAR.

Mathematics—Trigonometry, Descriptive Geometry, Calculus. German, through the year. Field Engineering; Drawing, Topographical, Mechanical and Architectural. Mineralogy, Geology. English, Compositions. Advanced French (elective) two or three times a week.

THIRD YEAR.

Mechanics, Optics, Astronomy. Mechanics applied to Engineering. Physical Geography, Metallurgy. Drawing. English, Compositions.

Section of Mining and Metallurgy.

(*First Year—see above.*)

SECOND YEAR.

Mathematics—Trigonometry, Descriptive Geometry. Mineralogy. German, through the year. Drawing—Mechanical and Architectural. Vegetable and Animal Physiology, (see section of Analyt. and Agr. Chemistry.) English, Compositions.

THIRD YEAR.

Mechanics, Optics, Astronomy, Geology. Lectures on Mining and Metallurgy, Laboratory Practice, Analysis of Minerals, Assaying, Drawing. Compositions.

Those who have passed their examinations on any one of the above courses, shall receive the degree of Bachelor of Science. Those who, after attaining the degree of Bachelor of Science, shall successfully pursue the studies of the Senior Class in the Academic course, (the classics being excepted,) or advanced studies in the Scientific Department for one year, shall receive the degree of Bachelor of Philosophy.

SPECIAL COURSES.

Those who do not desire to pursue a full course in the Agricultural College, will be permitted to pursue such portions of the course as with the advice and approval of the Faculty they may select, and may be properly prepared to undertake. Special facilities in laboratory practice will thus be afforded to those who are pursuing a course of study in the Medical Department of the University.

LECTURES FOR FARMERS.

To meet the wants of young men, who cannot leave their homes in the summer or autumn, a special course of lectures on Agricultural subjects will be given in February and March, provided there is sufficient demand for such a course to justify the establishment of it. No examination will be required for attendance upon this course. Among the topics treated will be Agricultural Chemistry and Physiology, Agricultural Zoölogy, Physical Geography, etc. A special fee, hereafter to be announced, will be charged for attendance on these lectures.

MILITARY TACTICS.

Provision will be made for military drill and instruction in tactics.

REGULATIONS.

The students in the Agricultural College (except the young men who are attending only the course of lectures to farmers) are required to attend prayers in the chapel, and are in every respect subject to the same rules of order and discipline as the students in the Academic department.

EXPENSES.

Tuition, \$15 per term. Room and rent incidentals as before.

Those who pursue the Laboratory courses, must also incur an additional expense of about \$40 a year for chemicals, breakage, etc.

GENERAL REMARKS.

The Corporation are determined to make the course of instruction in both departments of the institution thorough and complete. The Chemical Laboratory, the Philosophical Apparatus, the collections made to illustrate the physical sciences, already afford large facilities for instruction, but the increasing wants of the institution will be promptly met. The corps of Professors and Instructors will be enlarged, as the needs of the University may require. While care is taken to meet the wants of those young men who cannot pursue a full course in either the Academic or the Agricultural department, it is the aim of the Corporation to maintain the highest standard of discipline and culture in the regular Academic course, and to provide for a full, systematic and rigorous course of scientific study.

IOWA STATE AGRICULTURAL COLLEGE AND MODEL FARM.

STORY COUNTY.

HISTORY.

IN 1858 the Legislature passed an act (March 22) appropriating \$10,000 for the purchase of a farm on which to locate an Agricultural College, and at the same time entrusted its management to a Board of Trustees, of thirteen members, one from each Judicial District, and the Governor, and President of the State Agricultural Society. They are to serve for four years without pay, but are allowed mileage. The terms of one half of the Board will expire May 1, 1868, and of the other half two years later.

The county of Story donated \$10,000 in the bonds of the county bearing 7 per cent. interest, and individuals gave in bonds and notes about \$7,000 more. The Legislature in the act of 1858, also gave five sections of land in Jasper county originally granted by Congress for the building of a capital, out of which the College has realized \$14,000.

The two hundred and forty thousand acres assigned to the State of Iowa by the act of Congress of July 2, 1862, were appropriated by the Legislature (March 29, 1866) to the "State Agricultural College and Model Farm.

The scrip was located within the State by an agent whom the Trustees appointed, and the lands have since been offered for sale or for lease. The plan of leasing for ten years has been preferred. The lands selected on the government scrip are valued at \$480,000.

The Agricultural College was located in Story County, thirty miles due north from the capital of the State, on a farm of 640 acres, situated about midway between Nevada and Boonsboro, bought with a legislative appropriation of \$10,000. Prior to the reception of the National grant the institution had acquired in various ways a fund of \$30,000 in land, bonds, &c., after the purchase of the site and erection of a farm house. Subsequent to the bestowal of the National endowment, the Legislature, in 1864, appropriated \$20,000 for the erection of a college building, and in 1866 the sum of \$91,000 for the same purpose.

The College building will have sufficient accommodation for the board, lodgment and tuition of 200 students, and the requisite Professors. The structure is five stories high, one hundred and fifty-six feet in length, by seventy in width, the wings being capable of extension if additional room should be required.

The Faculty, course of study, &c., are yet to be determined. A committee consisting of Gov. W. Stone, Lt. Gov. Gue, and Peter Melendy, President of the State Agricultural Society, were appointed to visit the agricultural and other scientific industrial institutions of other States, inquire into their operations, and nominate a President and Faculty for the Iowa College.

WISCONSIN COLLEGE OF ARTS—STATE UNIVERSITY.

MADISON.

HISTORY.

THE State University of Wisconsin, located at Madison, was established in 1851, on the basis of the United States University land-grant of 46,000 acres. Out of this grant a "University fund" of \$300,000 was realized, the income of which by the Constitution of the State should be appropriated to the support of the University—but the productive capital has been practically diminished by the purchase of land and the erection of buildings, to the amount of over \$100,000; and in addition, the State charges to the income of this fund \$1,000, as the cost of its management, thereby diminishing the annual income at least \$8,000—enough to secure at least three or four additional professors.

Of the National land-grant for Agricultural Colleges, two hundred and forty thousand acres constituted the amount appropriated to Wisconsin. Up to 1867, little more than \$8,000 had been received from this source; though the scrip had been located in the State on lands valued in the aggregate at \$300,000.

In April, 1866, the Legislature decided to reorganize and enlarge the State University, and to establish two Colleges in it, the College of Arts, and the College of Letters. The income of the College land-scrip fund and the income of the University fund, were both appropriated to this institution, making an aggregate of property, (including land unsold,) valued at \$706,773, with an annual available income for the present of about \$13,000.

TRUSTEES.

The Regents of the University for 1867–8, are as follows:

J. B. PARKINSON, Fayette; AUG. L. SMITH, Appleton; B. R. HINKLEY, Oconomowoc; SAMUEL FALLOWS, Milwaukee; JACOB S. BUGH, Berlin—terms expire in 1868. EDWARD SALOMON, Milwaukee; ANGUS CAMERON, La Crosse; C. S. HAMILTON, Fond Du Lac; H. C. HOBART, Milwaukee; N. B. VAN SLYKE, Madison—terms expire in 1869. JNO. G. McMANN, Racine; F. O. THORPE, West Bend; R. B. SANDERSON, Poynette; J. C. COVER, Lancaster; HENRY D. BARON, St. Croix Falls—terms expire in 1870. THOMAS S. ALLEN, Secretary of State, *ex-officio* Secretary; W. E. SMITH, State Treasurer, *ex-officio* Treasurer.

FACULTY.

The Faculty of the same year are as follows:

PAUL A. CHADBOURNE, M. D., President, and Professor of Mental and Moral Philosophy; JOHN W. STERLING, LL. D., Professor of Natural Philosophy and Astronomy; EZRA S. CARR, LL. D., Professor of Chemistry and Natural History; ————, Professor of Agriculture; T. N. HASKELL, A. M., Professor of Rhetoric and English Literature; WILLIAM F. ALLEN, A. M., Professor of Ancient Languages and History; JOHN P. FUCHS, M. D., Professor of Modern Languages and Literature; JOHN P. PARKINSON, A. M., Professor of Mathematics; R. E. HARMON, A. B., Tutor.

COLLEGE OF ARTS.

REQUIREMENTS FOR ADMISSION.

The requirements for admission to the College of Arts, (which is the Scientific School of the University,) are as follows:

Candidates are examined in English Grammar, Geography, in Mental and Written Arithmetic, in Plane and Solid Geometry, and in Algebra to Quadratic Equations. None are received until they are at least fifteen years of age.

COURSE OF INSTRUCTION.

FIRST YEAR.

First Term.—Mathematics—Algebra begun, Loomis; German—Ahn's Method; Natural History—Botany. Elective Studies—Practical Botany and Agriculture, French and Latin.

Second Term.—Mathematics—Algebra completed, Loomis; Conic Sections, Loomis; German—Select Readings; History. Elective Studies—History of Useful Plants, Physical Geography, Climatology, French, Latin.

Third Term.—Mathematics—Plane Trigonometry, Mensuration, Surveying and Navigation, Loomis; German—Schiller's or Goethe's Plays; Natural History—Botanical Analysis; History. Elective Studies—Horticulture, French, Latin. Themes and Declamations weekly during the year.

SECOND YEAR.

First Term.—Mathematics—Spherical Trigonometry, Loomis; Analytical Geometry, Loomis; Rhetoric—Day; Natural History—Mineralogy, Dana; Human Anatomy—Lectures; Chemistry, Youmans. Elective Studies—Laboratory Practice, Qualitative Analysis, Blowpipe Analysis.

Second Term.—Physics—Snell's Olmsted begun, Lectures; Civil Polity—Political Economy, Perry; Chemistry—Organic and Applied; Natural History—Zoölogy begun, Agassiz. Elective Studies—Laboratory Practice, Quantitative Analysis.

Third Term.—Physics—Snell's Olmsted completed, Lectures; Civil Polity—International Law, Constitution of the United States; Natural History—Zoölogy completed, General Physiology. Elective Studies—Differential and Integral Calculus, Natural History of Domestic Animals, Entomology. Themes and Declamations weekly during the year.

THIRD YEAR.

First Term.—Astronomy—Snell's Olmsted; Mental Philosophy—Haven; English Literature—Shaw begun. Elective Studies—Examination of Soils, Forestry.

Second Term.—Logic, Whately; Moral Philosophy—Hopkins; English Literature—Shaw completed; Rhetoric—Bascom; Aesthetics—Bascom. Elective Studies—Modern Languages, Chemical Analysis, Determinative Mineralogy.

Third Term.—Natural Theology—Chadbourn; Analogy—Butler; Evidences—Hopkins, Lectures; History—Guizot's History of Civilization, General Review. Elective Studies—Reviews. Critical Essays, Declamations, and Forensic Disputations, weekly during the year.

The degree of Bachelor of Philosophy is conferred on those who complete this course.

The price of Tuition is \$6 per term of thirteen weeks.

EXPERIMENTAL FARM.

By section 15 of the organic act it is provided that "immediately upon the organization of the Board, it shall be their duty to make arrangements for securing, without expense to the State or to the funds of the University, suitable

lands, in the immediate vicinity of the University, not less than two hundred acres, including the University grounds, for an experimental farm, and as early as possible thereafter, to make such improvements thereon as will render it available for experimental and instructional purposes, in connection with the Agricultural course in the College of Arts." In obedience to this provision the Board of Regents, after a full and thorough examination of such lands as were offered to them for that purpose, and such others as they believed could be obtained, have purchased for this experimental farm a piece of land embracing that part of section 14, in township seven, north of range nine east, which lies west of the University grounds, and that part of section 23 in the same township and range which lies between the Sauk road on the south and the tract in section 14 adjoining on the north, also five town lots adjoining the University grounds on the south-west corner, comprising in all about 195 acres, and including Professor Reed's and Mrs. Hobbins' stone and brick dwellings, at an aggregate cost of \$27,054. Application has been made to the proper authorities for the vacation of the streets intersecting the town lots purchased, which will undoubtedly be granted.

The University grounds proper, heretofore belonging to the institution, contain about 41 acres; they are contiguous to the above described piece and with it form *one* tract with an area of over 235 acres. The utility and advantage of having the experimental farm so closely connected with the institution of which it is to form an important part, must be apparent to every one. The land purchased is, according to the opinion and judgment of all such members of the Board as are practically familiar with farming, and of all such persons as could be consulted by individual members of the Board and as have given thought and study to the establishment of experimental farms, peculiarly well adapted for this purpose on account of the great many varieties and differences in its soil and location. It is to be borne in mind, that the object in view is the establishment of an *experimental farm*, where agriculture is to be practically taught by experimenting on different soils and location of the land, and *not a model farm*, where the best kind and largest quantity of particular products are sought to be obtained from a particular piece of land. The Board believe that by this purchase they have secured to the University for a reasonable price the best possible piece of land for that purpose. The buildings too, which are upon the land, will be of great and immediate usefulness to the institution in its contemplated development.

REPORT.

The annual report for 1866, has been printed in an octavo pamphlet of twenty-four pages; and the Catalogue for 1866-7 gives additional information.

WEST VIRGINIA AGRICULTURAL COLLEGE.

MORGANTOWN.

THE scrip received by this State amounted to 150,000 acres. It was directed that the funds derived from selling this scrip should go to the endowment of the Agricultural College of West Virginia to be located near Morgantown, Monongalia County, on the property formerly belonging to Monongalia Academy and the Woodburn Female Seminary, and which was tendered to the State as a partial foundation for the new institution.

TRUSTEES.

Eleven Trustees, one from each Senatorial District, having been appointed by the Governor, assembled at Morgantown, April 3, 1867, and elected Hon. W. E. Stevenson of Wood county, President, and Dr. T. H. Logan of Wheeling, Secretary. Rev. Alex. Martin, D. D., was chosen President of the College, and in June following his inauguration took place. The address which he delivered at that time has been printed. (Morgantown, 1867, 8vo., 30 pp.)

ENDOWMENT.

The property of the school is thus stated in the address:

Proceeds of Congressional land scrip,	\$90,000
The College, (formerly Woodburn,) grounds and buildings,.	25,000
The Academy grounds and buildings,	15,000
Effects surrendered as the Library and personal property of the above,	390
Cash, Bonds, &c., surrendered as endowment of the above,	7,556
Total,	<u>\$137,946</u>

The proceeds of the scrip are invested in bonds of the State, bearing interest at six per cent. With this moderate endowment, the Trustees propose to maintain a Preparatory department, a College proper, a Scientific department, and an Agricultural department.

FACULTY.

The Faculty consists of the following persons:

REV. ALEX. MARTIN, D. D., President, and Professor of Mental and Moral Philosophy; REV. J. W. SCOTT, D. D., Vice President, and Professor of Languages; COL. J. R. WEAVER, A. M., Professor of Mathematics and Military Tactics; PROF. S. G. STEVENS, A. M., Professor of Natural Sciences; PROF. F. S. LYON, A. M., Professor of English Literature, and Principal of Preparatory Department, and PROF. O. W. MILLER, Assistant Professor of *Do*.

STUDENTS.

The College opened in September, 1867, and before its close there were 138 students in the different departments.

NEW JERSEY AGRICULTURAL AND MECHANICAL ARTS COLLEGE.

HISTORY.

NEW JERSEY directed the proceeds of her portion of the National grant, 210,000 acres, to the maintenance of a Scientific School in Rutgers College, at New Brunswick, by an act approved April 4, 1864. The school thus established as the "New Jersey College for the benefit of Agriculture and the Mechanic Arts," was opened for the full number of State students, in September, 1866.

COURSES OF STUDY.

The courses of study are as follows :

I. CIVIL ENGINEERING AND MECHANICS.

II. CHEMISTRY AND AGRICULTURE.

Either of these will occupy three years.

During the first year and the first term of the second year, the studies of the two courses will be the same.

The courses of study include the following subjects:

Practical Chemistry, Chemical Analysis, and Chemistry applied to the Arts.

Land Surveying, Topographical Surveying, Civil Engineering, Architecture and Draughting.

Mechanical Philosophy, Machinery, Hydraulics.

Agriculture.

Geology and Mineralogy, and their application to Mining and Metallurgy.

Botany and Geology, with their relations to Vegetable and Animal Physiology.

Astronomy and Navigation. Military Tactics. French and German.

Instruction will also be afforded in Rhetoric, Mental Philosophy, History, Political Economy, and International Law.

Courses of Lectures to adults upon various departments of Agriculture and the Mechanic Arts will also be given at stated times, through the second term of the year.

ARRANGEMENT OF STUDIES.

THIRD CLASS.—FIRST YEAR.

I. *Course in Civil Engineering and Mechanics.*

First Term.—Algebra; Quadratic Equations; Geometry, four books; Draughting—Constructing Problems; Elementary Principles of Zoölogy and Mineralogy; Rhetoric, Exercises in Elocution and Composition; French.

Second Term.—Algebra, Finished; Geometry, finished; Geometrical Draughting; Meteorology and Modes of Keeping Meteorological Register; History—Composition and Declamation; French.

Third Term.—Trigonometry and Surveying; Elements of Botany; Physical Geography; History—Composition and Declamation; Draughting; French.

II. *Course in Chemistry and Agriculture.*

First Term.—Algebra, Quadratic Equations; Geometry, four books; Draughting—Constructing Problems; Elementary Principles of Zoölogy and Mineralogy; Rhetoric, Exercises in Elocution and Composition; French.

Second Term.—Algebra, finished; Geometry, finished; Geometrical Draughting; Meteorology and Modes of Keeping Meteorological Register; History—Composition and Declamation; French.

Third Term.—Trigonometry and Surveying; Elements of Botany; Physical Geography; History—Composition and Declamation; Draughting; French.

SECOND CLASS.—SECOND YEAR.

I. *Course in Civil Engineering and Mechanics.*

First Term.—Analytical Geometry; Surveying and Levelling, with Field Practice; Descriptive Geometry and Draughting; Elements of Chemistry and Mineralogy; Rhetoric, Composition and Declamation; French.

Second Term.—Differential and Integral Calculus; Shades, Shadows and Perspective; Physics and General Chemistry; Mental Philosophy—Essays; German.

Third Term.—Mechanics; Railroad Engineering and Topography; Draughting; Mental Philosophy—Essays; German.

II. *Course in Chemistry and Agriculture.*

First Term.—Analytical Geometry; Surveying and Levelling, with Field Practice; Descriptive Geometry and Draughting; Elements of Chemistry and Mineralogy; Rhetoric, Composition and Declamation; French.

Second Term.—Analytical Chemistry, qualitative; Physics and General Chemistry; Mineralogy; Agriculture, its Principles; English Composition and Declamation; German.

Third Term.—Physics and Chemistry; Analytical Chemistry, quantitative; Agriculture, its Processes; Mental Philosophy—Essays; German.

FIRST CLASS.—THIRD YEAR.

I. *Course in Civil Engineering and Mechanics.*

First Term.—Optics and Acoustics; Astronomy and Use of Astronomical Instruments; Strength of Materials and Engineering Constructions; Moral Philosophy; German.

Second Term.—Geodetical Surveying; Machines, Motive Powers—Machinery used in Engineering; Geology; Political Economy; German.

Third Term.—Hydraulic Engineering; Military Engineering and Field Fortifications; Designs for and Discussions of Constructions and Machines; Constitution of the United States; Architecture.

II. *Course in Chemistry and Agriculture.*

First Term.—Metallurgy and Mining; Elements of Geology; Moral Philosophy—Essays; German; Agriculture, its Products; Farm Accounts.

Second Term.—Elements of Technology; Agriculture, its Products, continued; Geology; Political Economy; German.

Third Term.—Agriculture—Horticultural Products and Rural Embellishment; Theses on Scientific and Practical subjects; Constitution of the United States.

THEORY AND PRACTICE OF AGRICULTURE.

OUTLINE OF THE COURSE.

Instruction in the Theory and Practice of Agriculture will be conveyed for the present mainly by Lectures, except where suitable text-books can be obtained.

Opportunities for observation upon the College Farm will be given from time to time, and we hope to secure ere long, a cabinet of specimens and models by which the lectures delivered may be illustrated and exemplified. During the Terms mentioned below, the following subjects will be treated:

I. *Second Year, SECOND TERM.*—Agriculture, its *Principles*.

Its development and present condition as an Art. Its connection with the several branches of science. The economic requisites of vegetable growth, including soils, and the theory of manures.

II. *Second Year, THIRD TERM.*—Agriculture, its *Processes*.

Tillage, plowing; the physical manipulations of the land. Implements and Machinery. Drainage, Irrigation, etc. The Practice of Manures. Farm Buildings—their construction and arrangement.

III. *Third Year, FIRST TERM.*—Agriculture, its *Products*.

1. *Farming and Farm Crops*.—The cereals, their cultivation, their management and uses. Hemp, Flax, and other commercial crops. Root crops and the Legumes. Grasses, and the care of Pasture Lands. Rotation of crops, and the use of Artificial Fertilizers.

IV. *Third Year, SECOND TERM.*—*Products continued*.

2. *Animals and Animal Products*—The Principles of Breeding and the various Improved Breeds. The care of Domestic Animals and Fattening for Market. Dairy Management, including Milk, Butter and Cheese. Animals of Draught.

V. *Third Year, THIRD TERM.*—*Products continued*.

3. *Horticultural Products and Rural Embellishment*.—The Orchard, including the Nursery propagation of Trees. The Market Garden; forcing of plants and fruits. The Vineyard; manufacture of wine, cider, etc. Ornamental Trees and Shrubs, Landscape Gardening.

Either during the First Term of the Second Year, or subsequently, the study of Book-keeping will be continued with special reference to *Farm Accounts*, which is believed to be one of the most important branches of study, and opportunities of practice will ultimately be afforded the students in keeping the accounts of the College Farm. The study of *Botany* will also be continued with direct bearing upon the plants, useful or injurious, which the farmer most frequently meets. Some attention will also be given to *Entomology*, either as a separate branch, or in connection with those farm and orchard products which suffer most from insect depredators.

The lectures of the different terms are adapted as far as possible to the seasons when they can best be practically exemplified.

For College graduates and other advanced students who may wish to take a one year course in Agriculture only, the lectures will be so arranged that such students can attend a double course during two-thirds of the year, thus:

1st Term—the lectures numbered III; 2d Tm., I and IV; 3d Tm., II and V.

MILITARY TACTICS.

During each year, the students will be drilled in Military tactics. They will also be instructed in the principles of Military Engineering and Fortification, and will be afforded opportunities for visiting the various military posts and fortifications in the vicinity. For this purpose the school is furnished with arms by the Quartermaster's department of the State.

APPLIANCES.

Among the advantages for the profitable pursuit of the above studies, are:

1. The Library, the Collections, the Literary Societies, and all the facilities for literary education furnished by Rutgers College.

2. A Farm, where special attention will be given to Market Gardening, and to the cultivation of fruits; where the best modes of culture and the most improved implements are used; and where a system of keeping a full and com-

plete account of all the operations, expenses and income of the farm can be studied.

3. An Observatory, arranged and fitted with all the instruments needed for teaching practical astronomy.

4. Accommodations for the Laboratory and Museum, with ample room for lectures and experimental science, and for the practical operations of analytical chemistry; and where special provision is made for exhibiting the collections of the minerals, rocks, fossils, plants and animals of the State.

5. Full sets of instruments for Surveying and Engineering.

6. Excursions to mines, manufactories, &c., under the direction of Professors.

ADMISSION, FEES, ETC.

Applicants for admission to either of the above courses, as candidates for a diploma, must be, at least, sixteen years of age, and must bring testimonials of good moral character. They must also pass a satisfactory examination in the following subjects, viz: Arithmetic, Algebra to Quadratic Equations, English Grammar and Geography.

Persons desiring to enter the school for the purpose of pursuing special branches, will be required to pass an examination on the subjects necessary to fit them for pursuing those branches to advantage.

Adults who wish to attend upon any of the courses of lectures, and are not candidates for diplomas or certificates, can do so, subject only to the rules for fees and discipline.

The proper time for entrance is at Commencement (June 17th and 18th, 1867,) or at the beginning of the College year, (Sept. 20th, 1867,) when new classes are formed; but students will be admitted to a class at any time, upon their passing a satisfactory examination on the subjects the class have passed over.

Examinations are held at the close of each term.

Diplomas will be conferred upon those who have passed satisfactory examinations upon all the subjects prescribed in either course of study; and Certificates will be given to those who pass examinations in special branches.

Fees.--The charge for tuition is \$75 a year; one-third, or \$25, being payable at the commencement of each term; incidentals, \$8.

Students in Analytical Chemistry are charged \$15 additional, each term, for chemicals and use of apparatus.

The fee for conferring the diploma is \$7.50.

FACULTY.

The President of the College is Rev. W. H. CAMPBELL, LL. D.; and the scientific Professors are, GEO. H. COOK, in Chemistry and Natural History; DAVID MURRAY, Mathematics and Natural Philosophy; and Col. JOSIAH H. KELLOGG, U. S. A., in Engineering and Military Science. A Professor of Agriculture is to be appointed. Rev. T. S. DOOLITTLE is Professor of Rhetoric, etc., and there are two Tutors, one in Chemistry and one in Modern Languages.

STATE STUDENTS.

Every county is entitled to send as many free students to the Scientific School as the county sends representatives to the Assembly.

The number of students in 1866-7, was 26.

KENTUCKY AGRICULTURAL AND MECHANICAL COLLEGE.

AT LEXINGTON.

HISTORY.

KENTUCKY'S portion of the grant, amounting to three hundred and thirty thousand acres, was accepted by the State, January 27, 1863, and its appropriation was determined by the Legislature, February 22, 1865. By the enactment last mentioned, the "Agricultural and Mechanical College of Kentucky," became a special or distinct department of the University of the State, established at Lexington. The scrip was sold for \$164,960, and is invested in Kentucky State bonds, bearing interest at 6 per cent. per annum, yielding an income of nearly \$10,000 annually.

The history of the University has a romantic interest, but it would occupy too much time to narrate it here, in much detail. It was organized in 1858, chiefly or wholly in consequence of the earnest efforts of Mr. John B. Bowman, of Mercer County, who conceived in 1855, while pursuing the occupations of a farmer, the plan for founding for the people of his native State, "A Modern American Christian University," especially accessible to poor young men of the industrial classes in society. In one hundred and fifty days of actual labor, as he himself writes, subscriptions were obtained to the amount of \$150,000, and soon increased to \$200,000,—a large proportion being secured by notes of \$500 and \$1,000, from farmers in Central Kentucky.

In February, 1858, a charter was secured for the new institution, under the name of the Kentucky University, and in September, 1859, the College of Arts was opened, under the presidency of Robert Milligan, in the town of Harrodsburg. Various obstacles prevented its permanent establishment at that place.

At length the Trustees of Transylvania University, instituted at Lexington in 1798, made overtures for a union with the new establishment, and after various negotiations it was decided to combine these two foundations, and unite with them the third foundation derived from the Congressional grant. A bill permissive of this arrangement having been passed by a large majority in the General Assembly, Kentucky University was removed to Lexington, the grounds, buildings and endowment of Transylvania University were formally transferred to it, and the State Agricultural and Mechanical College was made one of its departments. The capital of the entire University now exceeded \$500,000, which was soon enlarged by subscriptions from the citizens of Lexington, to the amount of \$100,000 more. Somewhat later, Mr. Bowman purchased for the permanent site of the University, Ashland, the homestead of Henry Clay, and Woodland, an adjoining estate which extends within the limits of the city. The entire tract contains 433 acres of land of much beauty and fertility, (cost \$140,000,) and is already the seat of the Agricultural and Mechanical College.

The Kentucky University, thus reorganized, consists of six Departments or Colleges, namely: 1, Of the Arts; 2, Of Agriculture and Mechanics; 3, Of the

Bible; 4, Of Normal Instruction; 5, Of Law; and 6, Of Medicine. An Academy or Preparatory School is also maintained. It is with the second only of these departments with which we are now concerned.

AGRICULTURAL AND MECHANICAL COLLEGE.

Ten schools or sections will be organized in this College, in one or more of which the student may, at his option, be enrolled. In order to graduate in any school, he must remain in it at least a year, and must pass a satisfactory examination. In order to take a Bachelor's degree, he must have graduated in several of the schools.

COURSES OF INSTRUCTION.

I. SCHOOL OF PHILOSOPHY.

JUNIOR CLASS.

First Term.—Mental Philosophy, begun.

Second Term.—Mental Philosophy, completed.

SENIOR CLASS.

First Term.—Moral Philosophy.

Second Term.—Christian Ethics.

II. SCHOOL OF THE ENGLISH LANGUAGE AND LITERATURE.

FRESHMAN CLASS.

First Term.—Fowler's English Grammar; Klipstein's Anglo-Saxon Grammar and Analecta Anglo-Saxonica; Lectures on the Science of Language; Exercises in English Composition and Elocution.

Second Term.—Fowler's English Grammar; Klipstein's Anglo-Saxon Grammar and Analecta Anglo-Saxonica; "Anglo-Saxon Version of the Holy Gospels;" Lectures on the Science of Language; English Composition and Elocution.

SOPHOMORE CLASS.

First Term.—Blair's Lectures on Rhetoric and Belles-Lettres; Essays, Declamations, and Debates.

Second Term.—Kames' Elements of Criticism; Chamber's English Literature; Essays, Declamations, and Debates.

JUNIOR CLASS.

First Term.—Chamber's English Literature; Whately's Logic; Essays, Declamations, and Logical Disputations.

Second Term.—Chamber's English Literature; Whately's Rhetoric; Essays, Original Declamations, and Logical Disputations.

SENIOR CLASS.

First Term.—Lectures on English Literature; Readings in English Literature, with Critiques; Theses, Original Orations, Disputations, and Exercises in Extemporaneous Speaking.

Second Term.—Lectures on English Literature; Readings in English Literature, with Critiques; Samson's Elements of Art Criticism, with Lectures; Theses, Original Orations, Disputations, and Extemporaneous Speaking.

II. SCHOOL OF MATHEMATICS.

FRESHMAN CLASS.

First Term.—Towne's Algebra.

Second Term.—Davies' Legendre's Geometry, Books I, II, III, IV, V, VI.

SOPHOMORE CLASS.

First Term.—Davies' Legendre's Geometry, Books VII, VIII, IX; Plane Trigonometry and Measurement.

Second Term.—Loomis' Surveying and Navigation; Loomis' Geometry.

JUNIOR CLASS.

First Term.—Loomis' Calculus.

Second Term.—Snell's Olmsted's Mechanics.

• SENIOR CLASS.

First Term.—Davies' Spherical Trigonometry; Snell's Olmsted's Astronomy, begun.

Second Term.—Astronomy, completed.

IV. SCHOOL OF CHEMISTRY AND EXPERIMENTAL PHILOSOPHY.

JUNIOR CLASS.

First Term.—Elementary Chemistry and Physics; Instruction given by daily Lectures, fully illustrated by experiments, specimens, &c., and impressed by daily Examinations; Applications of these branches of science.

Second Term.—Lectures on Chemistry, illustrated by experiments, continued twice a week; Elementary Physics, with experiments, three times a week.

SENIOR CLASS.

During the Session.—Experimental and Applied Chemistry and Chemical Physics; five Lectures a week, more thorough than during the Elementary Course, and illustrated to the greatest possible extent by experiments, models, diagrams, specimens, &c. The numerous applications of the science to Agriculture, the Arts, and Manufactures, are specially indicated, and the Art of Testing in general and the Detection of Poisons considered. Organic Chemistry is discussed during the latter part of the course, and such instruction given in the Chemistry of Vegetable and Animal Physiology as the allotted time allows.

Practical Chemistry.—Provision will be made for instruction in Practical Chemistry, including the Chemistry of the Soil, as soon as students are sufficiently prepared.

Text-Books.—Yuman's New Class Book of Chemistry; Fownes' Chemistry for Students; Quackenbos' Natural Philosophy; Graham's Elements of Chemistry.

V. SCHOOL OF NATURAL HISTORY.

SOPHOMORE CLASS.

First Term.—Terminology and Outlines of Structural and Systematic Botany; Collection and examination of Specimens; General Views of the Animal Kingdom; Collection and Preservation of Insects, Birds and Mammals.

Second Term.—Structural and Physiological Botany, embracing the Laws of Propagation, Hybridization, Training, Pruning, Budding, Grafting, &c.

JUNIOR CLASS.

First Term.—Human Physiology and Comparative Anatomy and Physiology, especially of domestic animals; the making of Illustrative Preparations; Collection of Zoölogical Specimens.

Second Term.—Exotic Botany, including the Green-house, the Grapery, and Principles of Treatment; Geology; Outlines of Mineralogy and Lithology; Sources and Materials of Mineral wealth; Building Stones; Mineral Veins; the Location and Working of Mines and Wells for Petroleum, Salt, Artesian Waters, &c.; Collection of Specimens.

SENIOR CLASS.

First Term.—Systematic Zoölogy; Collection of Specimens; Outlines of Historical and Dynamical Geology.

Second Term.—Entomology; Insects injurious or beneficial to Vegetation; Preparation of a Thesis.

VI. SCHOOL OF HISTORY.

JUNIOR CLASS.

First Term.—Smith's History of Greece; Liddell's History of Rome; Lectures.

Second Term.—The Student's Gibbon; Political Economy; Lectures.

SENIOR CLASS.

First Term.—Student's History of France ; Student's Hume ; Lectures.

Second Term.—History of the United States ; Constitution of the United States.

VII. SCHOOL OF MODERN LANGUAGES.

JUNIOR CLASS.

First Term.

German.—Ahn's New Method ; Adler's Reader. *French.*—Fasquelle's Grammar ; Telemaque. *Italian.*—Cuore's Grammar ; Foresti's Reader. *Spanish.*—Schele De Vere's Grammar ; Velasquez's Reader.

Second Term.

German.—Ahn's Method ; Adler's Reader ; Schiller's Maid of Orleans. *French.*—Fasquelle's Grammar ; Telemaque ; Voltaire's Charles XII. *Italian.*—Cuore's Grammar ; Foresti's Reader ; Tasso. *Spanish.*—Schele De Vere's Grammar ; Valesque's Reader ; Don Quijote.

SENIOR CLASS.

First Term.

German.—Schiller's Mary Stuart and William Tell ; Composition and Conversation in German. *French.*—Corinne ; Racine ; Composition and Conversation in French. *Italian.*—Tasso ; Goldoni. *Spanish.*—Don Quijote.

Second Term.

German.—Goethe's Iphigenia and Reineke Fuch's ; Lessing's Minna Von Barnhelm. *French.*—Moliere's Comedies ; Voltaire's Tragedies. *Italian.*—Dante. *Spanish.*—Calderon.

VIII. SCHOOL OF CIVIL ENGINEERING AND MINING.

In this School will be taught Geometrical and Topographical Drawing, Tinting, Shading, and Lettering ; Descriptive Geometry ; Lineal Perspective ; Shades and Shadows ; Practical Astronomy ; Road Engineering ; the use of Engineering Instruments ; Leveling ; Architectural Drawing ; Geology of Mining Districts ; Metallurgy ; Mining Engineering ; Construction of Furnaces ; Determination ; Mineralogy ; and History of Mining Operations.

IX. SCHOOL OF FINE ARTS.

In this School will be taught Music, Drawing, Painting, and Landscape Gardening.

X. SCHOOL OF MILITARY TACTICS.

The Course will comprise Practical and Theoretical Instruction in the Tactics of the different Arms, Military Discipline, including the Duties of Guards, Sentinels, &c., in accordance with the Tactics and Regulations prescribed for the United States Army.

STATE STUDENTS.

By the provisions of the act of the Legislature establishing the Agricultural and Mechanical College of Kentucky as one of the Colleges of the University, each Representative district in the State is entitled to send to the College three properly prepared students, free of charge for tuition, for each member the district is entitled to send to the General Assembly. Said students also have the right to receive, free of charge for tuition, the benefit of the instruction given in any College of the University, except the Colleges of Law and Medicine. To enjoy these privileges, young men must be selected by a majority of the Justices of the Peace in the several districts, and be properly vouched for by their

certificate. And it is most earnestly recommended to the justices to select a Board of Teachers in each district for the examination of applicants, and to institute a system of competitive examinations, giving all, even the humblest youth, a chance for this State honor. It is expected that the State students will be selected and sent to the College with the settled purpose on their part of completing the whole course of studies prescribed.

It is very important that students be present at the beginning of the session, on the first Monday in October. They may experience great difficulty in securing rooms and in arranging their course of study, if their attendance should be delayed for any length of time.

MILITARY INSTRUCTION.

The act of Congress granting the land scrip requires any Agricultural College receiving the benefit of the grant, to give instruction in military tactics. In accordance with the provisions of this act, regular instruction is given to the students of this College, at stated times, in the Infantry Drill, and Military Discipline and Police, in accordance with the regulations prescribed for the United States army.

The Faculty may, for sufficient reasons, exempt any student from Drill.

A uniform of cadet grey cloth, such as is usually worn at the military schools in the country, is required, and can be obtained by students on their arrival at the College, at a cost not exceeding that of an ordinary suit.

THE ESTATE.

For productive, as well as educational purposes, the Estate is divided into two departments—1. The Farm, including the Vegetable Garden; 2. The Ornamental and Experimental Grounds and Gardens, which include the "Woodlands" and the adjoining Plats.

The Farm is under the charge of a Superintendent who is a practical farmer. He will have the oversight of all the practical details of the Field, and will give thorough instruction in the art of agriculture.

The Ornamental and Experimental Grounds and Gardens, including the orchards, vineyards, nurseries, etc., are under the charge of a competent Horticulturist, who will give thorough practical instruction in his department.

In these two departments students will learn to apply, by their own labor, the science that they acquire in the Halls.

THE LABOR SYSTEM.

All students of the Agricultural and Mechanical College, except such as may be exempted on account of actual physical disability, will be required to spend a portion of their time in active labor on the Estate, or at such of the Mechanical Arts as may be carried on in connection with the same. For this purpose they shall be divided into two classes.

The first class shall be composed of those students who may desire "to sustain themselves, in whole or in part, by their labor, while acquiring their education." These shall be required to labor not less than four consecutive hours a day, for six days in the week, on the Farm, for which they shall receive from five to ten cents an hour. During the hours of labor, they shall be under the exclusive control of the Superintendent of the Farm. This class of students shall be divided into two sections. The first section shall labor four hours in the forenoon; the second section shall labor four hours in the afternoon.

All other students shall constitute the second class. They shall be required to labor, without compensation, not less than two hours a day, for five days in the week, in the Ornamental and Experimental Grounds and Gardens, for the purpose of physical exercise and practical instruction. During the hours of labor this class of students shall be under the exclusive control of the Superintendent of the Grounds and Gardens, and shall be arranged into as many sections, and shall labor at such hours, as the Faculty may deem proper.

During the winter months, active labor may be suspended, in whole or in part, by the Faculty, upon the recommendation of the Superintendents.

DORMITORIES.

All rooms upon the Estate, which are set apart as dormitories, are reserved for State students. Those upon "Ashland" will be assigned to students of the first class under the labor system. Those at "Woodlands" will be assigned to students of the second class, under that system.

FACULTY.

The special Faculty consists of Prof. JOHN A. WILLIAMS, Presiding officer, and Professor of Mental and Moral Philosophy, and the following Professors:

HENRY H. WHITE, in Mathematics and Astronomy.

ROBERT PETER, in Chemistry and Experimental Philosophy.

JAMES K. PATTERSON, in Latin, Political Economy and History.

ALEXANDER WINCHELL, in Geology and Natural History.

JOSEPH D. PICKETT, in English Language and Literature.

WILLIAM E. ARNOLD, in Military Tactics.

Six Instructors, a Farm Superintendent, and two Stewards, are also employed.

NUMBER OF STUDENTS.

The number of students enrolled during the session of 1866-7, was 190.

LIBRARIES, MUSEUMS, AND APPARATUS.

Libraries.—There are Law, Medical and Miscellaneous Libraries belonging to the University, which comprise about 15,000 volumes, open to all students.

Museums.—The University Museums contain many valuable collections illustrative of the various departments of Natural History and the Sciences. The Anatomical Museum, is very large, and was secured originally at great cost.

Apparatus.—There is a large collection of valuable Chemical, Philosophical, and Astronomical Apparatus, besides a good Laboratory belonging to the University, ample for the present purposes of illustration and instruction.

TUITION.

Three hundred State students may be received gratuitously; all others pay \$30 per session of nine months.

REPORT.

The report of the Regent, (John B. Bowman,) dated June 26, 1867, is printed with the Catalogue of the University for 1867. Lexington, 8vo., 104 pp.

CALIFORNIA AGRICULTURAL, MINING AND MECHANICAL ARTS COLLEGE.

HISTORY.

By an act of the Legislature passed in 1862, the California share in the National grant was directed to the establishment of a new institution, (the site of which is still undetermined,) to be known as the Agricultural, Mining and Mechanical Arts College.

From unofficial sources, we learn that the Trustees of the "College of California," established at Oakland, (across the bay from San Francisco,) have offered to the Trustees of the "Agricultural, Mining and Mechanical Arts College," a site of land, well adapted to the proposed institution, provided that it shall be located there; and in addition they have offered to give up their own charter, and pass over to the State, their buildings, collections, and all other property, provided that on this foundation and at this place the State shall found the "University of California," bestowing upon it the National scientific school grant, the College of California property, and the State University land-grant. If this plan can be successfully carried out, the prospects of higher education in California will be most encouraging.

The National grant for industrial education amounts to one hundred and fifty thousand acres of land. Previously, (by an act approved March 3, 1853,) Congress had granted to California, seventy-two sections, or forty-six thousand and eighty acres of land for the use of a "Seminary of Learning," the proceeds of which are known as the "Seminary fund." The valuation of the Oakland property is unknown to us.

In 1864, Prof. J. D. Whitney, the State Geologist, John Swett, Superintendent of Public Instruction, and J. F. Houghton, Surveyor General, a Board of Commissioners especially designated for this purpose by the Legislature, presented a report to His Excellency F. F. Low, Governor of the State, on the establishment of a State University. In this document, which is attributed to the pen of Prof. J. D. Whitney, the concentration of the Industrial School land-grant and the Seminary fund, in one institution, was forcibly advocated, and the importance of organizing at first a school of Practical Science, was clearly set forth. The following propositions were laid down:

First—That there is no provision in the Congressional Acts granting lands to the State, and nothing in the Constitution of the State itself, which particularly defines the character of the proposed institution, and that therefore the Legislature is free to act in the matter within very wide limits.

Second—That the interests of the State require the consolidation of the proceeds of the grants of land for a University and for an Agricultural and Mechanical School, so that both these shall be parts of one institution.

Third—That it is not advisable, at least for the present, to organize a Collegiate Department in connection with the proposed institution.

Fourth—That the institution required by the State, and which will be best adapted to the wants of the people of the Pacific coast, in a School of Practical Science, or a Polytechnic School, meaning thereby an institution where the elements of the Exact and Natural Sciences will be taught, and their practical application to the wants of everyday life, as to mechanics, mining, manufacturing, and agriculture.

Fifth—That the collections of the State Geological Survey should be eventually made over to the State University or Polytechnic School, or this institution, organized for the purposes of higher education, in accordance with the Constitution of the State, whatever its name may be; that the interests of the State demand that these collections should be placed in a fire-proof building, which may be called the "State Museum," where they will be accessible for the purposes of instruction, not only to the student, but to the general public; and that for that purpose a Board of Commissioners should be appointed to take the matter in hand, select a suitable location, and erect a building, from funds to be drawn from the State Treasury and other sources, as will be explained further on, and that this Board should also report to the next Legislature a plan for organizing and setting in motion a State Polytechnic School. * * *

"The following reasons have led to the recommendation of San Francisco as the point where the proposed University should be established.

First—It is the most populous city of the Pacific coast. The number of its inhabitants is probably now over one hundred thousand—a number at least five times as great as that of any other city this side of the Rocky Mountains. This concentration of population at San Francisco is still going on, and will undoubtedly continue for an indefinite period, as this city has natural advantages which no other point on the Pacific coast can show. It is and must remain the commercial and manufacturing emporium of the North Pacific coast of America, and however great the fluctuations in the prosperity of the State of California may be, the march of this city will be onward, since the whole region from Mexico to British Columbia contributes to its support.

Second—It is the most central point of the State. One-third, at least, and probably as many as two-fifths of the population of the State lives in the immediate vicinity of the Bay of San Francisco. By its system of river and bay steamers, it connects together Northern, Southern, and Central California; it is the point where all persons coming from abroad by sea must land, and from which radiate lines of communication in all directions towards the interior. A much larger proportion of the population of the State visit San Francisco than any other point. But:

Third—It is by far, and out of all proportion, the wealthiest city in the State. One-third of the taxes which support the State Government is collected at San Francisco, and if the present rate of increase continues, as there is every reason to believe it will, this city will soon be paying one-half the expenses of the State.

Fourth—The climate of San Francisco is equable, bracing, and healthy, and is better fitted for sustained study and vigorous intellectual effort than that of any other part of the State."

MAINE STATE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

ORONO.

HISTORY.

MAINE was entitled to 210,000 acres in scrip. Having accepted the grant, the Legislature established (Feb. 25, 1865) the State College of Agriculture and the Mechanic Arts, leaving the site to be determined by the Trustees. In 1866, 193,600 acres of scrip had been sold at a little more than fifty-three cents per acre. Thus the sum of \$102,759 was realized, which was invested in bonds of the State of Maine, amounting to \$104,500. This sum will be increased by the sale of the remaining 16,320 acres.

Sixteen Trustees were originally appointed by the Legislature, one from each county, and Hon. Hannibal Hamlin was made the first President of the Board. He was succeeded by Hon. W. A. P. Dillingham. In January, 1867, the Trustees voted to request the Legislature to reduce this number to five or seven.

In January, 1866, the Trustees determined to establish the College in the town of Orono, upon land which was offered to them by the towns of Orono and Oldtown. The place selected is on the White and Goddard farms, a large and valuable estate of about three hundred and seventy acres, possessing high natural productiveness, sufficient diversity of soil for the various experimental purposes of an agricultural school, and having a fine frontage on the Penobscot river, while the rear of the farm is rich in an extensive tract of forest.

The site of the College is one of the most attractive in the State to a mind that appreciates natural beauty. It is one mile from the village of Orono with its churches, schools, stores, bank and vast water-power which furnishes a basis for manufacturing industry of various forms, and will be made tributary, no doubt, to the growth and success of the mechanical department of the College. Seven miles from Orono is the city of Bangor, already noted for its ship-building interest and commerce, as well as for its interior trade and extensive lumbering operations.

When the department of marine architecture in the College shall have been established, the Bangor ship-yards will furnish the students with practical illustrations in every branch of the business.

In addition to the gift of a site, the Trustees have received from the citizens of Bangor, the sum of \$14,000 in cash. Phineas Barnes of Portland, has been chosen President of the College, but for want of a building but little progress has been made in organizing the institution.

A Report on the steps thus far taken to organize the College, was presented to the Legislature in 1867, and printed. (Augusta, 24 pp., 8vo.) As a part of this document, the written suggestions of F. L. Olmsted, Landscape Architect of New York, are given in respect to the arrangement of the grounds and the construction of the building.

RHODE ISLAND.
SCIENTIFIC DEPARTMENT OF BROWN UNIVERSITY.
PROVIDENCE.

HISTORY.

THE AGRICULTURAL AND MECHANICAL COLLEGE in Rhode Island, provided for by the National land-grant of 1862, constitutes the Scientific Department of Brown University, which corporation has stipulated to provide a College or Department of the character contemplated by the act of Congress in order to promote the liberal and practical education of the industrial classes.

Rhode Island received scrip for 120,000 acres of land, which was very promptly accepted by the Legislature at its January session in 1863. The scrip was sold in 1866 for \$50,000, (payable in five unequal installments between August, 1866, and August, 1870,) which is at the rate of forty-one and two-thirds cents per acre. At the date of the fourth annual report in reference to this fund, dated Feb. 12, 1867, \$1,000 had been realized and invested in an U. S. five-twenty bond, bearing interest in gold at five per cent. per annum. The fund was appropriated to a scientific department in Brown University, at Providence. Until a much larger sum is received, no report can be made of the mode in which the income is employed. Four brief annual reports, thirteen pages in all, have been printed, addressed to the Governor of the State by the Corporation of the University. The second of these rehearses the difficulties which were encountered in an effort to locate for the College the National grant within the limit of the State of Kansas.

Since the above brief statement was in type we have received the "Fifth Annual Report of the Corporation of Brown University to Governor Burnside, for the year 1867," from which the following extracts are made:

The income from the fund will be sufficient to begin to educate students under the arrangements between the State and the University, by or before the next collegiate year, Sept. 2d, 1868.

By the resolution of the General Assembly, the Senators and Representatives are constituted a Board of Commissioners to present to the Governor and Secretary of State during the January session in each year, the names of worthy young men from the several towns as candidates to be educated as State beneficiaries in Brown University, under the Agricultural College Act, and from that class of persons who otherwise would not have the means of providing themselves with the like benefits.

From the candidates so nominated, the Governor and Secretary of State, with the President of the University, are to select, on or before Commencement Day, (the first Wednesday in September,) of each year, the scholars to be educated.

The department in the University to teach the branches of learning required by the Agricultural College act, has been organized, and the course of studies has been so liberally arranged as to supply the demands of a scientific and practical education for the present day; besides which all the courses of instruction given in the University are thrown open free to the students in the Agricultural department.

KANSAS STATE AGRICULTURAL COLLEGE.

MANHATTAN, RILEY COUNTY.

HISTORY.

THE KANSAS STATE AGRICULTURAL COLLEGE was established February 16, 1863, on the basis of the National land-grant, and went into operation in September following.

The amount of land appropriated to Kansas, was 90,000 acres, which was located in the State by a commission who visited and inspected each quarter section. The land thus located is offered for sale at prices ranging from \$3.00 to \$8.00 per acre, the agent in charge being Hon. I. T. Goodnow, late Superintendent of Public Instruction. It is expected that these lands will yield an endowment of 500,000 dollars. Until the fund arising from the sale of these lands reaches the amount of \$150,000, the Legislature agrees to advance an amount sufficient to pay the current expenses of the institution.

TRUSTEES.

The Trustees consist of the Governor, the Secretary of State, the Superintendent of Public Instruction, the President of the College, and nine other persons appointed by the Governor and Senate, as follows, (1867-8.):

Gov. S. J. CRAWFORD, President of the Board; Hon. R. A. BARKER, Vice President; Hon. T. H. BAKER, Secretary; Judge JOHN PIPHER, Treasurer; Rev. P. McVICAR, Sup. Pub. Instruction; Rev. J. L. REASER, Rev. E. GALE, Rev. R. CORDLEY, Rev. D. EARHEART, Judge L. D. BAILEY, Hon. S. D. HOUSTON, Hon. I. T. GOODNOW; Rev. J. DENISON, President of the College.

LOCATION.

The College is located in the Kansas valley, near Manhattan, Riley County. It is about 115 miles west of Leavenworth, and about the same distance from Wyandotte at the mouth of the Kansas river. Its distance west from Lawrence is 80 miles, and from Topeka about 50, and it is 15 miles northeast from Ft. Riley. It stands on a beautiful eminence back of the town, running northwest and southwest. From the base of the building, but especially from its top, is a panoramic view seldom surpassed for beauty and loveliness. The beholder, facing the west, will see the valley of the Wild Cat Creek, running up to the northwest some 15 miles and skirted with undulating bluffs. Facing the east, the scene that opens to view, is made up of the thriving town of Manhattan, spread out at the Junction of the Big Blue and the Kansas rivers, and the valley of the Kansas extending far on below with its majestic bluffs and intervening creeks. The field of view at the left takes in a part of the valley of the Big Blue, but the conspicuous figure in front is Blue Mont, the parent of the bluffs that line the valleys of the Big Blue, and the last one the river passes ere it unites with the Kansas. A straight edge, sixty miles long, with one end laid on the top of this cone-shaped bluff and the other end on the top of the bluff nearly opposite Marysville in Marshall County, would be touched by a series

of similar bluffs running the whole distance, the most of which are truncated, though on a few the tops still remain.

Manhattan is very easy of access by railroad and otherwise. The Depot of the Union Pacific Railroad Way E. D. is about two miles from the Institution.

TUITION.

Tuition is free in all the Departments except Instrumental Music. Ladies share the privileges of the Institution equally with gentlemen. A contingent fee of three dollars a term, or nine dollars a year, is charged to meet expense of fuel, lights, sweeping, &c. In Music, for instruction on the Melodeon, \$8 per term; on Piano, \$10 per term. For use of Melodeon, \$1; for use of Piano, \$2. For use of Library, 50 cents per term.

LODGING AND BOARD.

Board at the Boarding House, (a new, ample, and well furnished stone building, in charge of Col. F. Campbell,) is furnished at \$4 per week, with an additional charge of \$5 per term for fuel and lights. Washing done at reasonable rates. A portion of the students board themselves at less expense.

TERMS OF ADMISSION.

1. Candidates for admission to the Freshmen Class are required to pass a satisfactory examination in English Grammar, Ancient and Modern Geography, including outlines of History and English Composition.

2. Harkness' Introductory Latin, his Latin Grammar, his Latin Reader and Latin Prose Composition, Cæsar, Sallust, Cicero's Orations, and six Books of Virgil's *Æneid*.

3. In Greek, Harkness' 1st Book in Greek, with Fables, Anecdotes and Mythology, Hadley's Greek Grammar, and Zenophon's *Anabasis*.

4. Arithmetic, Mental and Written, Robinson's Elementary Algebra entire, and four Books of Robinson's Geometry.

Candidates for admission to the Scientific course will not be examined in Greek, nor the Latin Authors after Sallust, but in all the other studies. Candidates for advanced standing will be examined in all the preceding studies pursued by the classes they enter, or their equivalent.

Those wishing to enter the Academic, or Preparatory Department, should be prepared to pass a satisfactory examination in the four fundamental rules of Arithmetic, and the Elements of English Grammar, Geography, Spelling, and Reading.

COURSES OF STUDY.

Seven courses of study are announced on the programme, of which it appears that the "Classical," and the "Preparatory," are the more thoroughly carried out. The series announced is as follows:

CLASSICAL COURSE.

AGRICULTURAL AND SCIENTIFIC COURSE.

MILITARY SCIENCE AND TACTICS.

MECHANIC ARTS AND CIVIL ENGINEERING

ACADEMIC AND PREPARATORY COURSE.

COMMERCIAL AND MERCANTILE COURSE.

NORMAL COURSE.

AGRICULTURAL AND SCIENTIFIC COURSE.

FIRST YEAR.

First Term.—Soils in their relation to Vegetation, Water, Atmosphere, and also in their relation to vegetable products. Recitations, Lectures, and Field Practice on the Farm. University Algebra, and Modern History.

Second Term.—Subsoil Plowing, Tillage, Draining, and Fertilizers. University Algebra, Natural Philosophy, (Wells, with Lectures.)

Third Term.—Botany, (Gray's.) Zoölogy, (Agassiz.) Meteorology, (Brockelsby, with Lectures.) Botanical Lectures, Excursions, and Field Instruction. Geometry, (Robinson's.)

SECOND YEAR.

First Term.—Structure and Physiology of Plants; Buildings; Fall Crops and use of Farm; Machinery, and best Farm Implements; Preservation of Seeds; Recitations, Lectures, and Field Instruction. Geometry, (Robinson's.) Logic, (Coppee's.)

Second Term.—Philosophy and care of Domestic Animals; Diseases of Cattle and Horses; Propagation and Culture of Forest Trees adapted to Hedges, and their Cultivation; Recitations, and Lectures. Trigonometry, (Robinson's.) Logic, (Coppee's.)

Third Term.—Horticulture, and Kitchen Gardening; Propagation and Training of Fruit Trees, Vines, (especially the Grape,) Small Fruits, Vegetables, Grafting; Recitations, and Lectures; Surveying, and Engineering.

THIRD YEAR.

First Term.—The Staple Grains, Forage, Root and Fibre Crops of the Northern and Middle States, with their varieties, and soils adapted to them; Insects injurious to vegetation; Origin and Natural History of Domestic Animals. Conic Sections, (Robinson's.) Mental Philosophy, (Haven's.)

Second Term.—Raising and care of Domestic Animals; Characteristics and Adaptation of Breeds; Cattle for Beef, Draft, and Dairy; Horses; Sheep; Swine; Pasturing, Soiling, and Stall Feeding; Agricultural Botany; Description of Weeds and noxious Plants; Farm Book-keeping. Chemistry, (Wells', with Lectures.) Physiology, (Hitchcock's.)

Third Term.—History of Agriculture and Sketches of Husbandry in foreign lands. Adaptation of Farming to Soil, Climate, Market, and other natural and economical conditions. Systems of Farming; Stock; Sheep; Grain, and mixed farming. Geology, (Dana's.) Moral Philosophy, (Haven's.) Political Economy, (A. Walker's.)

Agricultural, Zoölogical, Botanical and Geological Excursions, during the Fall and Spring terms of the second and third year, will be conducted under the guidance of the Agriculturist, or the Professor of Natural Science, and are intended to be thoroughly practical in their character.

Daily and weekly exercises in Music, Calisthenics, Composition and general Reading, the same each year as in the Classical Course.

CLASSICAL COURSE.

FRESHMEN YEAR.

First Term.—Livy, (Keightly's History of Rome.) Latin Prose Composition. University Algebra, (Robinson's.) Herodotus, (Johnson's.) Modern History, (Lord.)

Second Term.—Ovid. University Algebra, (Robinson's.) Homer's Iliad, and Greek Prose Composition, (Anthon's.) Natural Philosophy, (Wells'.)

Third Term.—Horace, (Anthon's.) Homer's Iliad. Keightly's History of Greece. Geometry, (Robinson's.) Botany, (Gray's.)

Daily exercises each term in Vocal Elements, Music and Calisthenics, and weekly exercises in Elocution and Composition.

Read Bancroft's History of the United States.

SOPHOMORE YEAR.

First Term.—Cicero de Officiis de Senectute, (Anthon.) Æschines de Corona, (Felton's Lectures.) Geometry, (Robinson's.) Rhetoric, with Lectures and criticisms of English Authors in Prose and Poetry.

Second Term.—Tacitus Germania. Thucydides, and Greek Composition. Trigonometry, (Robinson's.) Logic, (Coppee's.)

Third Term.—Tacitus Agricola. Greek Tragedies, (Woolsey.) Surveying, (Robinson's.) Engineering, (Robinson's.) Zoölogy, (Agassiz.)

Daily exercises each Term, in Music and Calisthenics, and weekly exercises in original Declamation, and Composition.

Read Greeley's American Conflict, McCauley's History of England D'Aubigne's History of the Reformation, and Motley's Dutch Republic.

JUNIOR YEAR.

First Term.—Tacitus' Histories. Greek Tragedies, (Woolsey.) Conic Sections, (Robinson's.) Mental Philosophy, (Haven's.) Meteorology, (Brocklesby's, with Lectures.)

Second Term.—Plato; Analytical Geometry; Chemistry. Physiology, (Hitchcock's, with Lectures.)

Third Term.—Moral Philosophy, (Haven's.) Calculus, (Robinson's.) Chemistry, (Wells', with Lectures.) Acoustics, and Optics.

Provision will be made as soon as possible for instruction in the German, French and Spanish Languages.

Daily and weekly exercises in Elocution, Declamation and Composition, the same as the previous year.

Read Guizot's History of Civilization, Thier's French Revolution, and Hallan's Constitutional History of England.

SENIOR YEAR.

First Term.—Political Economy, (A. Walker's.) Astronomy, (Robinson's.) Geology and Mineralogy, (Dana's, with Lectures.) Philology, (Fowler's English Language, Dwight and Marsh's Lectures.)

Second Term.—Constitutional Law. Mechanics. English Literature, (Hallam.) Butler's Analogy.

Third Term.—International Law, (Woolsey.) Evidences Christianity, (Paley and Hopkins.)

INSTRUCTORS.

The Faculty consists of—

REV. JOSEPH DENISON, D. D., President, and Professor of Mental and Moral Science and the Greek Language.

B. F. MUDGE, A. M., Professor of Natural Science and Higher Mathematics.

REV. J. H. LEE, A. M., Professor of the Latin Language and Literature.

J. EVERTS PLATT, Professor of Mathematics and Vocal Music.

MRS. LAURA C. LEE, Teacher of Instrumental Music.

J. EVERTS PLATT, Principal of Preparatory Department.

ILLINOIS STATE INDUSTRIAL UNIVERSITY.

PRELIMINARY MOVEMENTS.

ILLINOIS claims to have been the earliest State to make a combined and persistent effort for the appropriation of National lands to encourage industrial education. These efforts are succinctly described by Hon. John Brooks, Superintendent of Public Instruction, in his report dated January 1, 1865 :

“To Illinois belongs the high honor of inaugurating this beneficent social enterprise, and of making the first organized movement toward the melioration of the producing classes, by proposing means for the specific and higher education of the toiling masses of the nation. The earliest published records of organized effort for purposes of industrial elevation in the United States, so far as is now known, are those of the convention of 1851, which was held in the town of Granville, in Putnam county in this State, the declared object of which convention was, to take into consideration such means as might be deemed most expedient to further the interests of the agricultural community, and particularly to take steps towards the establishment of an Agricultural University. During the session of this convention, the following resolutions, among others, were passed :

Resolved, That as the representation of the industrial classes, including all cultivators of the soil, artisans, mechanics, and merchants, we desire the same advantages and privileges for ourselves, our fellows, and our posterity, in each of our several pursuits and callings, as our professional brethren enjoy in theirs; and we admit that it is our own fault that we do not also enjoy them.

Resolved, That we take immediate measures for the establishment of a University in the State of Illinois, expressly to meet the felt wants of each and all the industrial classes of our State.

A second convention, to advance the cherished object of industrial education, was assembled in the city of Springfield, in the month of June, 1852. During this session, the convention ordered that a memorial be presented from that body to the Legislature of the State, at its next session, declaring the object of the organization, and praying for the use of the College and Seminary fund to aid in establishing and maintaining a University ‘for the benefit of the great industrial classes and interests of the State.’ In that memorial, the convention expresses its desire that immediate steps be taken for the consummation of the object recommended, and proposes ‘to appeal to Congress, in conjunction with eminent citizens and statesmen in other States, who have expressed their readiness to co-operate with us, for an appropriation of public lands *for each State in the Union*, for the appropriate endowment of a University for the liberal education of the industrial classes, in their several pursuits in the several States in the Union.’ The desire expressed in the proceedings quoted, to appropriate and use, for purposes of industrial education, the College and Seminary fund of the State, was entertained and urged prior to the establishment of the State Normal University. By section eight of the act incorporating that institution, it will be seen that this fund is now permanently devoted

to the interests of Normal education. The State Industrial University is, however, rendered independent of such incidental aid and support by the munificent Congressional bequest of 1862.

In the month of November, 1852, a third convention met in the city of Chicago. At this time was formed the 'Industrial League of the State of Illinois,' the object of which organization was to enlist the influence and energies of the working classes in behalf of the favorite scheme of education which had been so ardently cherished by its friends. It was resolved at this meeting 'to memorialize Congress for the purpose of obtaining grants of public lands to establish and endow industrial institutions in each and every State in the Union.'

The convention again assembled in the city of Springfield, in January, 1853. During its session, the convention addressed a memorial to the State Legislature then in session, requesting the joint action of the Senate and House of Representatives, to assist in procuring from Congress a grant of lands for the establishment and endowment of an Industrial University in each State of the Union. The following is quoted from the memorial of the convention :

'We would therefore respectfully petition the honorable Senate and House of Representatives of the State of Illinois, that they present a united memorial to the Congress now assembled at Washington, to appropriate to each State in the Union an amount of public lands, not less in value than \$500,000, for the liberal endowment of a system of Industrial Universities, one in each State in the Union, to co-operate with each other, and with the Smithsonian Institute at Washington, for the more liberal and practical education of our industrial classes and their teachers, in their various pursuits, for the production of knowledge and literature needful in those pursuits, and developing to the fullest and most perfect extent the resources of our soil and our arts, the virtue and intelligence of our people, and the true glory of our common country.'

The memorial of the convention was favorably entertained by the Legislature, and on the 8th day of February, 1853, joint resolutions were passed by that body, praying Congress to donate public lands to the several States for purposes of industrial education. It is believed that this action of the Legislature of Illinois, applying to Congress for a grant of lands for the industrial education of the nation, was several years in advance of the action of any other State Legislature in the United States.

Subsequent meetings were held by the friends of the enterprise at various places in the State; the subject was discussed in all its bearings; the theme was renewed at the annual meetings of the State and County Fairs; the scheme was advocated in public lectures, and addresses delivered to large and interested audiences of the people in the larger cities and towns of the State; and the labor of its friends was not intermitted until Congress, on the second day of July, 1862, passed an act, conveying to the States, upon conditions specified, the magnificent bounty described in the act itself, and before referred to.

At the session of the State Legislature next following the passage of the act of Congress, the bounty proposed by the General Government was formally accepted by the State, and the public faith was pledged to a compliance with the conditions of the grant. At the special session of the Legislature in the month of June, 1863, an effort was made by parties acting in the interest of certain literary institutions, located in the central and southern portions of the State, to divert the Government grant from its legitimate direction, and to secure its appropriation to local and sectarian purposes, entirely foreign to the object contemplated by Congress. The State may be congratulated upon the failure

of this effort, for by such a disposition of the grant, only a private benefit would have been secured, while all the important public advantages anticipated from the donation would have been lost to the State forever. In the same month, (June, 1863,) and during the time the proposition to apply the grant to private uses was pending before the General Assembly, another 'Convention of the Friends of Agriculture' assembled in the city of Springfield, and addressed to the Legislature a formal protest against the proposed diversion of the grant. At the same time, a committee of gentlemen, composed of one from each congressional district of the State, was appointed to collect facts and statistics relating to the establishment of a central Industrial University, and to mature a plan for its constitution and endowment.

Later conventions were held, in January, 1864, in the city of Springfield, and during the State Fair in Decatur, in the fall of the same year. In these meetings resolutions were passed, favoring the endowment of ONE UNIVERSITY, and deprecating any appropriation of the National bequest for any merely partisan or sectional uses."

In addition to these historical statements by Mr. Brooks, it is only just to add that Dr. J. B. Turner, of Jacksonville, had, several years previous to the date (1851) of the first Convention named above, been indefatigable in his efforts to enlighten public opinion on the value of industrial training, and to secure a National appropriation in aid of such education.

INDUSTRIAL UNIVERSITY.

The amount of land-scrip to which Illinois became entitled, was 480,000 acres. The definite action of the Legislature in regard to the disposal of the proceeds of the grant was not matured until the spring of 1867, when the "Illinois Industrial University" was formally incorporated.

Its location was deemed of such immediate advantage as to lead to a lively competition from different counties and townships, and was finally awarded to Champaign County by the offer in land, buildings, and bonds, to the value of \$400,000. The University domain, including ornamental and parade grounds, experimental and model farms and gardens, comprises over one thousand acres.

TRUSTEES.

The institution is placed under the control of twenty-eight Trustees appointed by the Governor, and four additional *ex-officio* Trustees, viz: the Governor of the State, the State Superintendent of Public Instruction, the President of the State Agricultural Society, and the Regent of the University when elected.

The names of the Trustees for 1867, were as follows: His Excellency R. T. OGLESBY, Governor; Hon. N. BATEMAN, Superintendent of Public Instruction; A. B. McCONNELL, President of the Agricultural Society; J. M. GREGORY, LL. D., Regent, *ex-officiis*, and the following appointed persons:

Lemuel Allen, Alexander Blackburn, Mason Brayman, A. M. Brown, Horatio C. Burchard, J. C. Burroughs, Emery Cobb, J. C. Cunningham, Robert Douglass, M. L. Dunlap, Samuel Edwards, Willard C. Flagg, O. B. Galusha, M. C. Goltra, David S. Hammond, George Harding, S. S. Hayes, J. P. Hungate, John S. Johnson, Luther Lawrence, Isaac S. Mahan, E. B. McMurray, J. H. Pickrell, Burden Pullen, Thomas Quick, J. W. Scroggs, Charles H. Topping, John M. Van Osdel.

A meeting of this body was held at Springfield, March 12th, 1867, twenty-six

members being present, and the Governor in the Chair. J. M. Gregory, LL. D., for several years Superintendent of Public Instruction in Michigan, and at the time of his appointment President of a College in Kalamazoo, was elected Regent of the University, at a salary of \$3,000 per annum; Willard C. Flagg was elected Corresponding Secretary, John W. Bunn, Treasurer, and O. B. Galusha, Recording Secretary.

PLAN OF ORGANIZATION.

Various preliminary steps were taken in respect to the organization of the University, the most important of which was the appointment of a committee on the selection of a course of study and the appointment of a Faculty; and the adoption of the following resolutions in respect to the establishment at Chicago of a Polytechnic Department or Branch of the University:

Resolved, That a Mechanical or Polytechnic Department of the Illinois Industrial University be and the same is hereby established at Chicago, at such point as a majority of the members of the Board of Trustees residing in the Third Grand Division and first Congressional District, shall determine.

The said members of said Division and District are hereby authorized and empowered to receive contributions and subscriptions for said department, and as a committee of the Board, to take all other necessary and lawful proceedings for the organization of said department, and the direction and control thereof.

Provided, That said branch be located as near the centre of the city as possible.

Provided, That no part of the funds, scrip, or other property of the University, other than such as may belong to or be received for such department, or be donated for its support or endowment, be used in the establishing or carrying on of said Mechanical or Polytechnic branch or department.

The committee on organization, consisting of Messrs. J. M. Gregory, N. Bateman, M. Brayman, S. S. Hayes, and W. C. Flagg, have published a report, recommending the establishment of the following departments:

I. *The Agricultural Department*—Embracing:

1. The course in Agriculture proper. 2. The course in Horticulture and Landscape Gardening.

II. *The Polytechnic Department*—Embracing:

1. The course in Mechanical Science and Art. 2. The course in Civil Engineering. 3. The course in Mining and Metallurgy. 4. The course in Architecture and Fine Arts.

III. *The Military Department*—Embracing:

1. The course in Military Engineering. 2. The course in Military Tactics.

IV. *The Department of Chemistry and Natural Science.*

V. *The Department of Trade and Commerce.*

VI. *The Department of General Science and Literature*—Embracing:

1. The course in Mathematics. 2. The course in Natural History, Chemistry, etc. 3. The course in English Language and Literature. 4. The course in Modern Languages and Literature. 5. The course in Ancient Languages and Literature. 6. The course in History and Social Science. 7. The course in Philosophy, Intellectual and Moral.

PROPOSED COURSES OF STUDY.

The course of instruction may properly employ four classes of Teachers:—
1st. *Professors*, or principal instructors in each department of study. 2d. *As-*

sistant Professors—younger, or less accomplished teachers, employed in sub-departments, or to aid in departments in which the work cannot be fully done by one man. 3d. *Lecturers*, or non-resident Professors—men eminent in some speciality of art or science, who may be employed to visit the University at specified seasons, and give courses of lectures. 4th. *Tutors*, or young men employed temporarily to give instruction in the more elementary studies.

The committee indicate the following as among the more important departments or chairs of instruction:

1. The Professorship of Practical and Theoretical Agriculture.
2. " " of Horticulture.
3. " " of Analytical and Practical Mechanics.
4. " " of Military Tactics and Engineering.
5. " " of Civil Engineering.
6. " " of Botany and Vegetable Physiology.
7. " " of Zoölogy and Animal Physiology.
8. " " of Mathematics.
9. " " of Chemistry.
10. " " of Geology, Mineralogy, and Physical Geography.
11. " " of English Language and Literature.
12. " " of Modern Languages.
13. " " of Ancient Languages.
14. " " of History and Social Science.
15. " " of Mental and Moral Philosophy.

In addition to these, the committee suggest the following Lectureships:

1. The Lectureship of Veterinary Science.
2. " " of Commercial Science.
3. " " of Human Anatomy, Physiology, and Hygiene.
4. " " of Constitutional, Commercial, and Rural Law.

MILITARY DEPARTMENT.

The Military Department will be made an important and efficient part of the University, and the plan reported by Major J. H. Whittlesey of the United States Army, for providing a system of National military education, will be accepted, when offered, in all its details. Drill exercises will be introduced from the outset, and a uniform of Cadet gray will be worn by all the students after the opening of the next autumn term.

THE LABOR SYSTEM.

All students, unless excused on account of sickness or physical inability, will be required to join in the work of the farm, and the garden, of fruit growing and animal husbandry, for from two to three hours per day, for which compensation will be made.

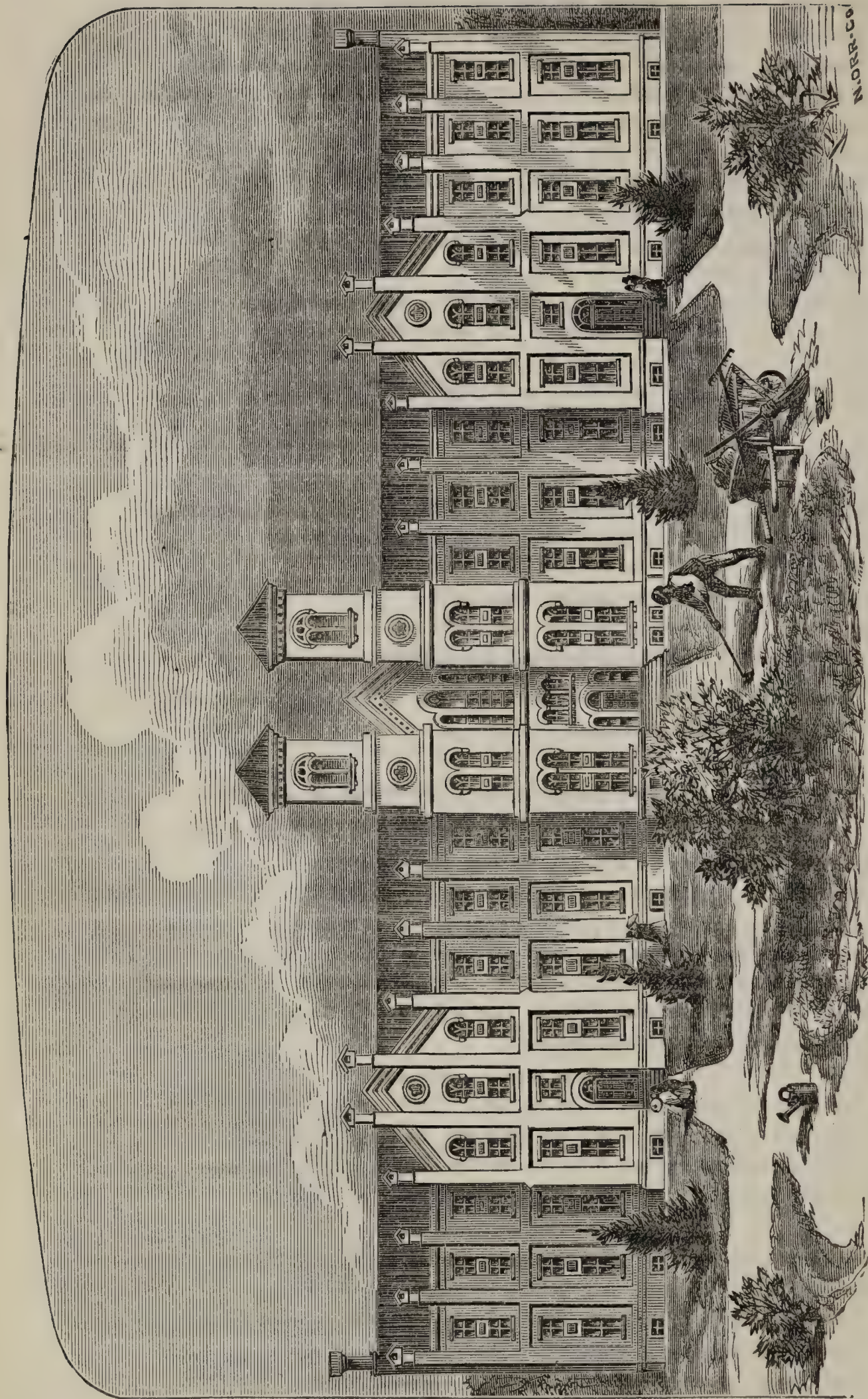
BOARD, TUITION, ETC.

Students can obtain rooms in the order of application, in the University buildings, at \$4 per term, or in private families. Meals are furnished at cost.

Each student pays a matriculation fee of \$10, and, if from Illinois, \$5 per term; if from out of the State, \$20 a year.

The formal opening will be on the 11th of March, 1868.

MARYLAND AGRICULTURAL COLLEGE.



PART III.

SCIENTIFIC AND INDUSTRIAL EDUCATION

IN

THE DIFFERENT STATES OF EUROPE.

STATE, DEPARTMENTAL, AND COMMUNAL SCHOOLS

OF

ARTS AND MANUFACTURES.

FRANCE, although not yet possessing a governmental system of industrial schools, was earliest in the field to aid special departments of artistic labor, and to institute museums, collections and special schools to stimulate invention, and prepare her artists and artisans for a higher career than they would have attained in the ordinary course of apprenticeship. The establishment of the School of the Fine Arts in 1648; of the government factories of tapestry (1606,) furniture, and porcelain and pottery (1590;) of the Schools of Civil Engineering (1722,) Mining (1783,) and Public Works; of the Conservatory of Arts (1785) and the Imperial Schools of Arts and Trades (1802)—conspired to place the constructions of her engineers, the design and skill of the workshops of France, in advance of those of other countries. Before describing a few of the leading institutions of each class, we will give a survey of Industrial Instruction as it was in 1850, and in 1864, from official documents. Except the great State schools, the institutions herein enumerated have been established mainly by municipal authorities and far-seeing manufacturers, stimulated and aided by the central government, to meet local wants.

INDUSTRIAL INSTRUCTION IN 1850.*

In the scheme of institutions devoted to technical instruction, the first rank belongs to the Conservatory of Arts and Trades at Paris, begun by that famous mechanic, Vaucanson, as a collection of machines and mechanical tools, and gradually expanded by the government from 1785 until it has become the great museum and archives of the industrial arts. It embraces in its range of operations: (1) a collection of machines, models and designs, with experts to give advice and instruction to those who ask, and motive power to exhibit and test new inventions; (2) a library of technological publications in different languages, including plans of ornamentation; (3) annual courses of lectures on the sciences applied to the great national industries; (4) a school of design. To these sources of practical knowledge the workmen of Paris resort in large numbers, and with great profit to themselves and to the country.

The three State Schools of Arts and Trades at Châlons, Angers, and Aix—the first instituted in 1802, the second in 1811, and the third in 1843, supported by the government, are intended to train skillful workmen; and from them have proceeded a large number of master-finishers, founders, blacksmiths, machinists, carpenters and engineers.

As to the proportions of theory and practice in the course of instruction,

* Abridged from an article in the *Revue des Deux Mondes*, by A. Amphori.

the pupils pass seven hours and a half daily in the workshops, and only five hours and a half daily in classes and in the apartments for design. The professors are rigorously obliged, in their lessons, to take the most usual point of view; that from which the pupil can best see how to use the knowledge he acquires. Since the vote was substituted for ministerial selection of professors, two years since, the courses of instruction have been so arranged as to drop out those theoretical gentlemen who are unable to do what they teach.

The principal advantage of these schools is not, in our opinion, the direct influence which they exert upon the national industry. The two hundred and fifty pupils or thereabout who leave them every year, are scarcely the thousandth part of the workmen who grow up in France during the same time; but the schools show a style of instruction which serves as a model for comparison. The pupils carry into private workshops theoretical knowledge which they could not acquire there, and which is most useful in the explanation of practical labor. Although yet imperfect workmen, they improve more rapidly than the others, and sooner become excellent foremen. Although we know that among some foreign nations, habits supply the place of institutions, among us, these schools will stimulate a little our untoward habits. They have another destination, of higher importance; they may become seminaries of professors for the industrial instruction which the country waits to see organized, and for which we are now endeavoring to prepare a way. Once improved by the practical training of the private workshops and manufactories, the best pupils of these schools will become most useful in the development of this special instruction; which needs a body of instructors adapted to its peculiar needs.

An institution established at Paris, the central school of arts and manufactures, also helps the accomplishment of this same work. The similar nature of its instructions alone justifies the assistance granted it by government, which confers upon it a sort of public character.* During an existence of twenty years, the central school has fully justified the expectations of its founders, it is devoted to the education of civil engineers, directors of machine-shops, and chiefs of manufactories. Besides the four principal courses studied, the mechanic arts, the chemical arts, metallurgy and architecture, it instructs its pupils in all the pursuits of industrial labor. Since chemistry has left laboratories to enter workshops and to perfect there the results of manufacturing processes; since the physical world has been searched for the means of employing heat and steam, which have become such powerful agents of production, industry has ceased to be abandoned to empiricism. Every manufacture has asked from science methods quicker, surer, and more economical. The central school satisfies this demand. By physical and chemical study, it prepares pupils expressly for the direction of industrial labor, just as the polytechnic school, by the study of mathematical science, becomes a seminary for the department of public works, and for some other special professions.

Under these institutions, which have a general character, may be ranked those institutions which we will term local. These may be divided, in respect to their destination, into two great classes; one, consisting of those whose design is to instruct in the applications of some one science to the industrial arts; and the other, of those which confine their instruction to the practice of an art or trade; or to the collateral knowledge necessary to exercise it. To estimate the actual influence of both, they must be considered in the place where they exist.

In the northern section, where manufacturing industry reigns supreme, we see only the arts of design as applied to arts and trades, gratuitously taught. The schools of design established in most of the important towns, are generally of recent creation. The oldest date from the restoration or from the empire, except that three or four, have an earlier origin. For instance, the school of Arras, where some instruction is given, which relates partly to industrial occupations, was founded by the states-general of Artois, in 1775; that of St. Omer in 1780, and that of Calais in 1787. These institutions are every where much valued among the working classes. Some of them contain classes of as many as a hundred and fifty pupils. Some of them are particularly for children, but most for adults.

* The State allows the central school an annual sum of \$6,000, which is distributed to candidates (for prizes) by a vote.

Architectural design and practical geometry, as applied to cutting stone, wood, &c., are often among the studies. In all that populous district which extends from the Belgian frontier to the western extremity of Normandy, and contains such manufacturing metropolises as Rouen and Lille, there are only two small institutions which really have the character of industrial schools. One is at Dieppe; it is a school for lace-making and open-stitch for young girls. It was founded during the restoration, and increased during the government of July. It receives about three hundred pupils, and while giving them a primary school course of instruction, it also instructs them in an occupation. It has exercised a favorable influence upon the lace manufacture; there has been organized in connection with it, a boarding department, where some poor girls are supported gratuitously, and educated to become skillful work-women and assistant teachers. The other institutions situated at Mesnières, in the *arrondissement* of Rouen, receives about sixty orphan boys, and trains them for business in workshops appropriate for different trades. Some local societies, as the society of workmen at St. Quentin, &c., endeavor to instruct the laboring classes in some occupations.

In our eastern departments, the domain of industrial instruction is less confined. There are there some schools, some technic institutions, for the working classes. The schools of design are more numerous than in the north, and are more decidedly directed towards manufactures. The manufacturers of Switzerland, Germany, and England, have more than once had upon their fabrics the marks of the designers, engravers, and colorists, trained in the gratuitous schools of the Haut-Rhin. Some schools of design of rather wider scope, do great service to industry. Among these may be especially mentioned the school of Saint-Etienne, where are intructed all the designers employed in the neighboring manufactories, and in particular by the ribbon-makers, who are so very jealous about the good taste of these articles of ornament. Besides instruction in design, there are given from time to time public courses of instruction, established and supported by the towns, and particularly elementary courses in chemistry, in mechanics, physics and mathematics, such as may furnish the workmen with an intelligent understanding of their profession. Among the cities which enjoy to some extent instruction of this sort, may be mentioned Metz, Mulhouse, Colmar, Bar-le-Duc, Besançon, Rheims, Nancy, Dijon, Rive-de-Gièr, Langres, &c. These institutions are sometimes the results of individual effort; thus, at Besançon, a private citizen founded in 1829 a public and free course of study upon mathematics as connected with the arts. At Bar-le-Duc, industrial courses were established by an association of subscribers, and were taken charge of by the commune. Local societies, among which the industrial society at Mulhouse is first in influence and resources, have increased the local activity, and give the initiative to the population in general. In Sémur, a small town of the Côte-d'Or, a private society. Some manufacturers have imitated this example; for instance, in the great establishment of Guebwiller (Haut-Rhin) gratuitous lessons are given to the operatives in linear design, geometry, and machinery.

There are also in the east of France, several institutions devoted more exclusively to special purposes. The most important, whose regulations are worthy of most attention, are at Lyons, Strasbourg, Nancy, and Saint-Etienne. Lyons stands first, both for population and manufacturing wealth. Besides the Lamartine school, in which are given instructions in mechanics, physics, chemistry, and design, and also a course in the manufacture of cloth, a number of private institutions give practical instruction in loom-weaving, and the theory of the decomposition of cloth, (*décomposition des étoffes*;) they instruct also how to set up looms after any required pattern. Instruction is also given in making patterns, in designing for woven fabrics, and in keeping accounts for workshops. These lessons, as will be observed, go to the heart of the industry of Lyons. It is only to be wished that it were more liberally dispensed; and that the city would make it gratuitous. Lyons has also schools for teaching designing of figures, stone-cutting, and several schools of design for journeymen carpenters; but it is to be regretted that payment is necessary for admission to them. Strasbourg has a well organized school of design, maintained by the commune. The practical instruction given there, besides elementary theoretic instruction in mathematical and physical science, includes iron-work at forge and vice, turning, carpentry, lithography, and chemical manipulations. In selecting the workshop for a pupil, reference is had to his tastes and aptitudes. At Nancy

there has been for several years established a "house for apprentices" on an entirely new plan. The results have been considered deserving of encouragement by the council-general of the department of the Meurthe. The apprentices form a family, and call one another brother. Infractions of rules are determined upon by a tribunal composed of all those apprentices who have obtained a certain number of good marks. A good mark is given by vote of all the pupils. The penalties consist of a system of reparations founded upon the nature of each fault. Thus, one who breaks silence when silence is ordered, is condemned to keep silence until permitted to break it. If two apprentices quarrel, they must embrace and become companions at play for a set time. The pupils of this establishment labor in the workshops established in it, and attend the communal schools to receive primary instruction. At Saint-Etienne, a school of mines is intended to furnish conductors of mines, and directors of explorations and mineralogical workshops. As this instruction is gratuitous, workmen may attend the school to be taught mining.

In the department of Doubs, a practical school of horology was founded in 1836, at Morteau, for the purpose of preserving and increasing the beautiful employment which is important to the labor of that section. In the leisure of winter, always so long among the mountains, the farmers, shut in so much by the snow, have no other means of occupying their time. The town of Besançon, the department, even the supreme government, had encouraged the establishment of the school at Morteau, which seemed to promise great success; but different causes having diminished the demand for the clocks from Doubs, the school, after having already done some good, was forced to be closed. Similar institutions have been unable to support themselves at Dijon and Maçon. The departments and towns ought to have afforded them a more liberal support. The same may be said of a school of another species, for mounting looms, established at Rheims by a local society, in which skillful mounters and weavers had already been trained, but which perished for lack of funds.

In this same region, at one of the most ignorant points of the department of the Meurthe, a project is being put in execution to which we wish the best success. It is intended to establish a special school for a branch of industry to which, though humble, a considerable population is confined. The inhabitants of the six communes of the ancient county of Dabo, at the foot of the Vosges, which was united with France only in 1801, have no other means of gaining a living than their forest-rights in the public forests, and the execution of carefully carved wood-work. Their hereditary industry, remaining absolutely stationary, has become surpassed by other products of the same kind, and commerce gradually refuses them. The projected school is designed to instruct these unskillful turners in methods of labor more suited to existing tastes and demands. Instruction will be given in making playthings and domestic utensils, such as those made in Switzerland and in the Black Forest. In order to have some chances of success, it will be necessary to instruct the young, and not the adult workmen, whose traditional habits it would be difficult to alter. These latter, having been exclusively employed in doing coarse work, would find it very difficult to acquire delicacy of hand. With this proviso, the plan of the founders of this school appears excellent; when it has succeeded, it will be another good example of what our eastern departments can offer in the way of industrial instruction.

The southern section of France is not so favored in this respect; it presents a similar aspect to the northern. Schools of linear design of trade, architecture or decoration, existing at Marseilles, Avignon, Montauban, Digne, Aude, Grenoble, Tarbes, Grasse, &c., a few courses of instruction in three or four towns in the elements of chemistry, of physics, of mechanics, of geometry, are almost the only institutions for industrial instruction. The town of Nismes alone is better supplied; perhaps there is not in all France another city where special instruction is given on so extended a scale. A course of design for manufactures embraces instruction in damasked and in stamped flowers. Another course of geometrical design completes the knowledge which the children have received in the elementary schools. The instruction in chemistry comprehends lessons in dyeing, an important branch of local industry. Admission to all the classes is free. A school of weaving, dating from 1836, is liberally opened for theoretic and practical instruction in the manufacture of cloths. The theory is of the processes employed both in brocaded and in plain stuffs; the practice consists in the actual weaving of the cloths in the

loom. The town furnishes the tools, machines, and raw material, necessary for the work. By explaining the art of weaving in two aspects, this school has had an excellent influence upon the manufactures of Nîmes. It was only necessary to endeavor to gather into it as many foremen and workmen as possible. In this same department, of the Gard, at Alais, has been established a school of master-miners. The instruction has not so high a character or purpose as that at Saint-Etienne, at least in that part of the course designed for directors of machine-shops. The practical exercises consist in drawing plans both of the surface of the ground and of the mines, and in mining in the mines of pit-coal about Alais. The pupils also practice blacksmithing, wagon-making, and carpentry. Admission is not free, and scarcely any pupils are expected except those maintained by some department, or by some of the coal companies.

In our western departments the two large cities of Bordeaux and Nantes are the only ones which have paid much attention to special instruction. In the capital of ancient Guyenne, in 1834 and 1835, the municipal council founded public and gratuitous courses of instruction in industrial chemistry, mathematics and mechanics, as applied to arts and trades. The chamber of commerce also, a rich and active body, established in 1843 a course of chemistry and natural history. A private society called the philomathic society, whose assistance has often been valuable to the laboring population of Bordeaux, has for six years defrayed the expense of special instruction; the practical part of which consists in linear design and instruction about the steam-engine. At Nantes, besides that the town maintains a free school of design, founded in 1789, there is a private society known as the industrial society, whose efforts for young workmen are now appreciated throughout France, which is at the head of the industrial training of the masses. It receives from the commune, the department, and the State, assistance which is increased by private subscriptions. The workmen are counted by hundreds, whose first steps it has guided in the rude career of labor. The object of this society is two-fold; to give its pupils instruction carefully adapted to their condition, and to arrange for their apprenticeship in different trades.

La Rochelle and Brest have also made some efforts to introduce industrial education in the west of France. At La Rochelle, was established in 1844 a theoretic course in ship-building; at Brest, a society called the society of emulation endeavors to instruct in linear design, in drawing plans, &c. In this part of France, all children, not merely of those of easy circumstances, but of all who are not altogether too poor, attend, without exception, the classical schools. They are often interrupted in their studies, by the inability of their parents to bear their prolonged expenses, and rarely succeed in reducing to practice, even at a late period, the imperfect education they receive. Families unable to send their sons to the high school, content themselves with the ordinary instruction. The idea of special instruction is scarcely a germ in this soil, which seems ungenial to it. Nowhere is the word "professional" applied to instruction in a narrower or falser sense.

The center of France, excepting the department of the Seine, whose establishments deserve a distinct notice, is scarcely less ill supplied than the west. Most of the departments are destitute of graded (*sérieux*) establishments also. Schools of linear design, or of design more or less applicable to industry, exist only at great distances. There are, however, a few institutions in which some practical instruction is given. For instance, the *prytanæum* of Menars, established in 1832 in the department of the Loire and Cher, and recently reopened after having been some time shut, is devoted to industrial studies. The plan of the institution is similar to that of our schools of arts and trades, but unfortunately has not as great resources at command. The city of Tours has established a course in physics and chemistry, but it has not been organized upon a sufficiently wide basis to attract many auditors. At Limoges, the municipal council and the agricultural society, by uniting their efforts, have done much good by means of public and free lessons, in geometry, mechanics, design, modeling, and stereotomy. In the Haute-Loire, Le Puy received the gift of a free industrial school from private subscriptions, the town paying its annual expenses. This institution, though less complete than that of Strasbourg, is constructed upon the same model, and accommodates a hundred children of workmen. There are some special courses at Le Puy also; but the practical applications of science are not brought out there. In the department of

the Corrèze, though small and unkindly treated by nature, we see with pleasure, at Tulle, a free school of mechanical geometry. Linear design is applied there to the drawing of figures and of machines, to stone cutting, carpentry, and architecture.

At the other extremity of the central section, in the department of the Seine, whose riches and activity contrast singularly with the nakedness and simplicity of the country we are leaving, have been united most of the means of industrial instruction which are scattered here and there over the surface of France. Paris, nevertheless, contains nothing comparable with the school of weaving at Nismes, with the private institutions for teaching weaving at Lyons, with the national schools of arts and trades at Châlons, Angers, and Aix. We seek there in vain for an organized system of practical instruction, provided with all resources necessary to meet the public demand. All the establishments of this class in Paris, except the national conservatory of arts and trades, may be classed in two divisions; one appropriated to those in easy circumstances, or who can pay a monthly fee, the other gratuitous, and therefore accessible to the working population. In the former class are the Chaptal municipal college and the Turgot school, in both of which there is a department of industrial teaching; several schools preparatory to the school of arts and trades; schools of architecture, horology, &c. From our present point of view, the latter class calls for our especial attention. The number of public establishments included in it is inconsiderable. Besides the small school of the conservatory, there are hardly any other than free classes in industrial design. Design for woven stuffs does not occupy so prominent a place as it ought; the artistic element of design is preponderant, which will not be surprising when it is known that by a singularity of which our administration affords more than one example, these schools are altogether separate from the department of commerce, and under the direction of that of the fine arts.

In the vast field for industrial instruction among the working classes, the principal burden has fallen upon private institutions established by charity or by economic foresight. In the immense gulf of the capital, the action of these establishments does not appear to the indifferent, or to those immersed in business; but though silent and almost unknown, they are a valuable help to the unfortunate and to the helpless, and very profitable to the community. The institution for apprentices in the city of Paris, under the direction of M. Armand de Melun, trains up to labor, from the pavements of the city and from garrets and misery, a crowd of children who would otherwise have hastened to populate the prisons. While their instructors train their minds by primary instruction, and seek to inspire right sentiments into their hearts, they are gradually prepared for the actual life which awaits them. Another institution, that of Saint-Nicolas, receives several hundred pupils in two establishments, one at Paris and the other at Issy. Its judicious directors mingle a proper amount of elementary instruction with manual labor. Unfortunately the limited resources of this establishment do not permit it to furnish a very great variety of instruction. Other similar institutions are entering the same course. The work-rooms for girls are actual industrial schools for the most feeble and exposed portion of the laboring population, and that needing most care. There are also in Paris small school for apprentices, established almost entirely by the contributions of foremen for poor orphans. Such enterprises are worthy of judicious encouragement by the municipal council.

Other public and gratuitous courses of study, founded by private societies, with different designs and by different means, are assisting to disseminate technical instruction among the workmen. When a man has some property, and is thus in a way to fill a useful place in society and to gain his own living, instruction of this kind, carefully adapted to his requirements, dealing with fact rather than with theory, simple, and appealing to the good sense of the masses, is likely to produce excellent moral effects. I do not say that all these qualifications actually exist; some additions and retrenchments are necessary. The philosophic sentiment of the great task of industrial improvement for the masses is not clearly brought out; and the conditions of true practical instruction are often not fulfilled. Yet many honorable individual efforts have been made in this direction. They have produced real good, and merit effective encouragement from the Parisian municipal authority.

TECHNICAL SCHOOLS IN EACH DEPARTMENT OF FRANCE.*

AIN.—The farm-schools of *La Saulsaie* and *Pont-de-Veyle*.

AISNE.—*St. Quentin*.—Course of industrial drawing for adults of all trades; 60 pupils. The Imperial Free Drawing-school; 60 to 70 pupils.

ALLIER.—Two preparatory technical schools at *Moulins*, with about 100 pupils, and an agricultural school at *Belleau*.

ALPS, (UPPER, LOWER, and MARITIME.)—One farm-school in each of these departments.

ARDENNES.—*Charleville*.—A professional school with 300 pupils.

ARIEGE.—A farm-school at *Royat*.

AUBE.—*Troyes*.—Municipal school of drawing and architecture, with 114 pupils. A gratuitous course of German and English, with from 15 to 20 pupils. A sewing-school for girls has 18 boarders and 30 day-pupils.

AUDE.—A farm-school at *Besplas*, with 24 pupils.

AVEYRON.—A chair of agriculture at *Rodez*.

BOUCHES-DU-RHÔNE.—*Aix*.—Imperial school of arts and trades, and a private preparatory technical school, with 155 pupils.

Marseilles.—Preparatory school of arts and trades, with 70 pupils.

La Ciotat.—Drawing-class, and apprentice system.

Farm-school at *Montaurone*, with 36 pupils.

Schools of hydrography at *Marseilles*, *La Ciotat*, *Arles*, and *Martigues*.

CALVADOS.—*Caen*.—Three public and gratuitous courses for drawing, sculpture, &c., with 112 pupils. Course of agriculture, with 50 pupils; of horticulture, with 20 pupils; and of agricultural chemistry, with 75 pupils. A sewing-school for girls and four orphanages, wherein children of both sexes receive primary instruction and are taught some industrial art.

Bayeux.—Two schools in which girls are taught sewing, knitting, and embroidery.

Lisieux.—Drawing-school for working men; 20 pupils.

Vire.—Public course at the Hôtel-de-Ville, for improving the elementary instruction of the working class, and imparting the scientific knowledge most useful for the local industries. There are about 70 pupils on the average.

Condé-sur-Noireau.—Professional courses for the instruction of the foremen and workmen employed in spinning, weaving, and other local industries; 42 pupils.

CANTAL.—*Aurillac*.—Trade-school for drawing, mathematics, sculpture, &c.; 30 pupils.

Murat.—Lace-making school; 85 pupils. At this place, and at *Mauriac* and *St. Flour*, there are also sewing-schools, with 25, 40, and 50 pupils respectively. At *St. Paul-des-Landes*, a farm-school, with 33 pupils.

CHARENTE.—*Angoulême*.—Public and gratuitous courses of applied physics and chemistry, with an average attendance of 100, and a course for drawing, with 62.

Bardines.—A course of horticulture, attended by about 80 persons.

CHARENTE, (LOWER.)—*La Rochelle*.—Evening school for drawing and geometry applied to the industrial arts; 150 pupils. Farm-school at *Puillboreau*.

CHER.—Farm-school at *Laumoy*.

CORREZE.—*Tulle*.—Departmental trade-school for young workmen; 100 pupils. The technical-schools at the Imperial Manufactory of Arms, with 40 pupils. There is also at *Les Plaines* a farm-school, with 45 pupils.

COTES-DU-NORD.—Farm-school of *Castellaouënan*, with 33 pupils.

At *St. Briec*, a school for lace-making, with 30 to 40 pupils, and at *Tréguier* one for sewing and embroidery, with 25 pupils.

CREUSE.—The farm-school of *La Villeneuve*.

DORDOGNE.—The farm-school of *Lavallade*.

DOUBS.—*Besançon*.—Municipal school for teaching the theory and practice of clock and watch-making, established by the municipality in 1862. The course occupies three years, and the number of pupils is 30.

* Communicated by the Prefects of the Departments.

There are also at Besançon gratuitous courses on the application of mathematics to arts and manufactures, with 12 to 15 pupils, and a drawing-school, with an average attendance of 150 pupils. A chair of agriculture has also been founded there.

EURE-ET-LOIRE.—In this department there are 11 sewing-schools established by charitable persons at *Chartres*, *Illiers*, *St. Luperce*, *Dreux*, and *Nogent-le-Rotrou*.

FINISTERE.—A farm-school at *Trévarez*, a practical school of irrigation and drawing at *Lézardau*, and a chair of agriculture at *Quimper*.

GARD.—*Alais*.—School for educating overseers and foremen of mines, founded by the Government in 1843; it is supported by the town of Alais and the department of the Gard, with a subvention from the State. The number of pupils, all boarders, is 28. The results are very satisfactory.

Nîmes.—Weaving-school, theoretical and practical, with a course of pattern-drawing, founded by the municipal council in 1856 at the expense of the town. It is regularly attended by 30 pupils, with most satisfactory results.

Nîmes has also an excellent school of design, likewise founded by the municipal council. It comprises four courses:—1. A course of artistic drawing, including the figure, the round, landscape, and painting. 2. A course of ornamental drawing, with modeling and sculpture. 3. A course of linear drawing, including plans, designs of machines, &c. These courses are diligently followed by 145 pupils. To these three the municipality has added: 4. An evening course for adults, in which workmen are taught drawing applied to carpenters' work, stone-cutting, &c.

The municipal council has founded, in addition to the above, a course of chemistry and physics applied to the industrial arts, especially to dyeing.

GARONNE, (UPPER).—*Toulouse*.—School of the fine arts and industrial sciences. In this establishment there are courses of drawing in all its branches, of painting, sculpture, architecture, anatomy, arithmetic, geometry, physics, and chemistry, of algebra, descriptive geometry, perspective, and stereotomy. The number of pupils was about 600 in 1863.

There are also a commercial-school, (private,) with 120 pupils, courses of agriculture, of arboriculture, and an imperial veterinary school.

GIRONDE.—*Bordeaux*.—Evening-classes for adults founded and conducted by the Philomathical Society. There are in all 21 classes, attended by 1,810 pupils. The subjects taught, in addition to reading, writing, and arithmetic, are geography, geometry, (plane, solid, and descriptive,) algebra, mechanics, (with application to steam-engines,) practical hydraulics, drawing, physics, chemistry. The same society has also opened classes for apprentices.

Municipal professional course of mathematics and their applications; 130 pupils.

A naval school supported by the department, the city of Bordeaux, and the Chamber of Commerce. There are from 150 to 200 pupils, who are taught on board the frigate *La Brillante*, moored in the Garonne. Lastly, a chair of agriculture.

HERAULT.—*Montpellier*.—A private commercial and technical school, in which pupils are prepared for the Imperial School of Arts and Trades at Aix.

ILLE-ET-VILAINE.—In this department there are courses of book-keeping and drawing annexed to the college at *Dol*; agricultural-schools at *St. Jouan-des-Guerets* and *St. Meën*; and eight sewing-schools at *St. Malo*, *St. Servan*, and *Fougères*.

INDRE.—Farm-school of *Villechaise*, and a reformatory at *Fontgombault*, kept by the Trappists, who give instruction in agriculture and the trades dependent thereon.

INDRE-ET-LOIRE.—*Tours*.—Courses of drawing, with 180 to 200 pupils; of horticulture, with 150 to 200 pupils; of chemistry and physics, with about 200 pupils.

Farm-school at *Chedigny*, with 33 pupils.

LANDES.—Farm-school at *St. Sever*.

LOIRE-ET-CHER.—*Ménars* and *Blois*.—Professional schools for preparing pupils to enter the schools of arts and trades, &c. There are also sixteen sewing-

schools at *Blois*, *Ménare*, *St. Aignan*, *Meusnes*, *Vendôme*, *Romorantin*, and *Salbris*.

Farm-school of *La Charmoise*.

LOIRE.—*St. Etienne*.—School of miners, founded by Government in 1816, to train mining overseers and foremen; 54 pupils.

The municipality has founded a public course of chemistry applied to the industrial arts, and a drawing-school chiefly directed to forming pattern-designers for ribbons.

Roanne.—Drawing-school for workmen.

Agricultural-school at *La Corée*.

LOIRE (UPPER).—*Le Puy*.—Industrial evening-schools, founded by the town, for the instruction of workmen in drawing and mathematics applied to industry. There is also an industrial course annexed to the Imperial Lycée.

LOIRE (LOWER).—*Nantes*.—The schools of the Industrial Society and the Upper Trade School.

Imperial agricultural-school at *Grandjouan*; farm-school at *St. Gildas*.

LOIRET.—*Orléans*.—Upper Trade School, with 90 pupils.

Four sewing-schools.

LOT.—Farm-school at *Le Montat* for 36 pupils.

LOZERE.—*Mende*.—Lace-making school, with 17 pupils.

Farm-school of *Recoulettes*; 32 pupils.

In this department there are also five schools for embroidery, and two orphanages, one for boys, the other girls.

MAINE-ET-LOIRE.—*Angers*.—Imperial School of Arts and Trades.

Municipal drawing-classes, with 50 pupils.

MANCHE.—*St. Lô*.—Course of drawing, theoretical and practical, founded by the municipality for the benefit of the working class; 50 pupils. There is also a course on gardening and fruit-trees.

St. Waast-la-Hougue.—School of hydrography.

Sewing-schools at *Coutances* and *Carentan*.

MARNE.—*Châlons*.—Imperial School of Arts and Trades.

Rheims.—Industrial School founded by the Industrial Society of Rheims, with 80 pupils, and annexed to it three public gratuitous courses on commercial law, drawing, and manufactures; 70 to 80 pupils.

Public courses of physics, chemistry, and drawing; 250 pupils.

Sewing-schools at *Epernay*, *Montmirail*, and *Sézanne*.

MAYENNE.—Farm-school of *Le Camp*.

MORBIHAN.—Farm-school of *Trécesson*; 30 pupils.

MOSELLE.—*Metz*.—Superior industrial school, founded by the town; 235 pupils.

Private trade-school at *Longwy*.

NIEVRE.—*Nevers*.—School of art, founded by the town; 45 pupils.

Farm-school at *Poussery*.

NORD.—*Lille*.—School of the industrial arts and of mines. Its object is to give technical instruction, on the principal industries of the Nord, to young men who have already received a good general education. Its present organization dates only from 1861, when it was placed under the direction of the Minister of Commerce. Its only revenue consists of the payments of the pupils, with a subvention of 7,000 francs from the department. It had only 30 pupils at first. As soon as the resources of the establishment will permit, evening classes are to be opened for adults.

Class for stokers, founded by the Lille Society of Sciences, and supported by the voluntary subscriptions of manufacturers and others using steam-engines; 15 to 20 pupils.

Academic schools, founded and supported by the city. The courses of painting, sculpture, figure-drawing, perspective and anatomy applied to design, are attended by 250 pupils; those of architecture and ornament by 50; those of applied geometry, mechanics, geometrical and linear drawing by 250; in all, 550 pupils. The results are very satisfactory.

There is also at Lille a superior primary school for the sons of artisans; it has 180 pupils.

Tourcoing.—Courses of physics and chemistry founded by the town; 20 to 40 pupils.

Weaving-school for orphans; 14 pupils.

Roubaix.—School of drawing applied to manufactures; 14 pupils.

Course of physics and chemistry adapted to the local industries; 130 pupils.

Douai.—Academic schools for drawing, &c.; 130 pupils, many of them adults.

Valenciennes.—Academic schools for painting, sculpture, and architecture, the pupils respectively numbering 60, 67, and 40; in all, 167. The expenses are borne by the town.

Cambrai.—A trade-school (private) for commerce, manufactures, and agriculture; 186 pupils. There is also another school of the same kind managed by the Christian Brothers, with 90 pupils.

Bailleul.—Lace-making schools, with 800 pupils, and sewing-schools with about 600.

Lille.—Three sewing-schools, with about 240 pupils.

Loos.—Sewing-school, with elementary education; 90 to 100 pupils.

OISE.—Farm-schools at *Mesnil-St.-Firmin*, and at *Beauvais*.

ORNE.—*Alençon*.—Public courses of drawing, arithmetic, and geometry, for workmen; 50 pupils in winter, 25 to 30 in summer.

Farm-school at *St. Gauthier*.

PUY-DE-DOME.—*Clermont*.—Communal trade-school, supported by the town; 250 pupils.

Volvic.—School of architecture; 20 pupils;

PYRENEES (LOWER.)—Farm-school of *Talon*.

PYRENEES (UPPER.)—Farm-school at *Virens*, near Lourdes; 30 pupils.

Tarbes.—Municipal trade-school, with 80 pupils.

PYRENEES (EASTERN.)—Farm-school of *Germainville*; 33 pupils.

RHINE (LOWER.)—*Graffenstaden*, near Strasburg. Trade-school.

RHINE (UPPER.)—*Mulhouse*.—Trade-school. Under this title have been combined three special schools, having the same staff of professors and premises common to them all. They are—

1. The Free Secondary School, with very nearly the same curriculum as the imperial lycées, but with the addition of four elementary classes for boys between the ages of 7 and 12.

2. The Industrial School for boys from 14 to 18 years of age, who, in addition to scientific and literary instruction, are taught theoretically and practically the construction of machines, or mechanical weaving and spinning, or the chemical arts connected with the dyeing and printing of tissues.

3. The Chemical Laboratory, the courses of which occupy two years.

This school has in all its departments a total of 312 pupils.

A theoretical and practical school of weaving by machinery has been established at Mulhouse under the auspices of the Industrial Society of the town. It is supported by voluntary subscriptions, and managed by a committee of seven members, selected from among the principal resident manufacturers. There are at present 36 pupils of the first year, the same number of the second, and 42 of the third, which is the greatest number that can be accommodated. The charge for admission to both the theoretical and practical courses is 600 francs a year; to the theoretical only, 300 francs; and to the practical only, 400 francs. There are also evening courses for workmen at 25 francs per month, but this charge is reduced almost to nothing for deserving workmen.

Mulhouse has also a drawing-school, founded by the Industrial Society, chiefly intended to form pattern-designers. There are 70 pupils, many of whom are admitted gratis; the others pay 4 francs a month.

There is, besides, a trade-school for youth of the Jewish community. It has at present 47 pupils. They are admitted from 14 to 16 years of age, and remain three years in the establishment.

Mulhouse has excellent municipal schools for both sexes. The boys' school is divided into three: the elementary-school (four years,) the middle-school (three years,) the higher-school (two years.) The number of boys in all of them amounts to about 1,800. The school-fee is 20 to 30 francs a year, but many are admitted gratuitously.

The municipal school for girls is attended by about 1,200 pupils. They receive a good general education, and are taught sewing, embroidery, and other occupations proper for their sex.

Lastly, Mulhouse has a superior school of sciences and letters, constituted by imperial decree in 1855, under the authority of the Minister of Public Instruction, and supported by the town. Its special object is to teach the applied sciences, mechanics, descriptive geometry, physics, chemistry, drawing, &c. There are also lectures on the literature and history of France. Certificates of capacity for the applied sciences are granted to deserving pupils. The number of pupils inscribed is at present 30, but more than 200 persons often attend the lectures.

Guebwiller.—Popular library and evening-school founded in 1858; 500 pupils chiefly of the working class.

There are also at Guebwiller evening-schools for girls and women employed in factories during the day; 145 pupils.

St. Marie-aux-Mines.—Upper trade-school, founded in 1863, to prepare youth for industrial and commercial occupations. Fee, 5 francs per month. Four hours' instruction daily, from 8 to 10 in the morning, and 2 to 4 in the afternoon. The number of pupils at present (1864) is 17 only.

There are also in this town gratuitous technical evening classes for adults, attended by about 130 pupils.

RHONE.—*Lyons*.—The gratuitous professional school of *La Martinière*, so called from its founder, Major-General Claude Martin, a native of Lyons, who died at Lucknow in 1800, in the service of the King of Oude; 500 pupils, all belonging to the artisan class, are here educated during the day, and 200 adults attend classes in the evening.

The Central School for Industry and Commerce was founded in 1857 by an association of merchants and manufacturers, and placed under the direction of M. Girardon, professor at La Martinière, and at the Imperial School of Fine Arts. The number of pupils is at present 80, all out-door. The school hours are from 7 till noon, and from 2 till 6 in the evening. The pupils are admitted at 15 years of age, after an examination.

The course of instruction, which extends over three years, comprises arithmetic, algebra, elementary geometry, trigonometry, descriptive geometry, analytical geometry, the elements of the differential and integral calculus, industrial physics, chemistry, (organic, inorganic, and analytical,) mechanics, construction of machines, metallurgy, resistance of materials, geology, mineralogy, natural history, book-keeping, English language, drawing of machines, &c. There are also workshops for practice in the manual arts. The instruction is given in the form of lectures, the pupils being permitted to make objections and ask explanations. After the three years' study, they undergo general examinations, and if deserving, obtain diplomas.

The School of Fine Arts, especially intended to give such instruction as may be useful to the local industries.

Course of instruction for stokers; two hours weekly, generally attended by about 50 pupils.

Theoretical course of instruction for silk-workers; 80 pupils.

Course of chemistry applied to dyeing, founded in 1860; 70 pupils.

Course of artistic design for adults, founded in 1853. There are on the average 250 to 300 pupils in the year; the lessons are given three evenings per week, from 6 to 8 o'clock.

Course of linear drawing, applied to various trades, for adults. Founded in 1849. Three lessons per week of two hours each; 200 pupils in the year.

Course of horticulture and agriculture, founded in 1858. About 60 pupils yearly.

Practical school of horticulture, at *Ecully*, near Lyons. The lessons are given on Sundays, and are attended by 300 persons on the average.

Course of commercial book-keeping for females, founded in 1857. The studies occupy two years, and the average of pupils is 75. The more deserving receive diplomas on leaving.

Course of artistic and industrial drawing for females, founded in 1856 by the Primary Instruction Society. The annual number of pupils is about 75; three lessons per week of two hours each.

Adult classes for males, founded by the above-named society; 110 pupils.

Tarare.—Professional courses. Drawing applied to patterns of tissues and embroidery, physics, and mechanics; 80 to 100 pupils.

SAONE-ET-LOIRE.—*La Creusot*.—Industrial-schools for both sexes. Attendance seven hours a day. Number of people: boys, 900; girls, 700. There are also evening-classes for adults, and a lace-making school, with above 200 pupils.

Farm-school at *Le Montceau*.

UPPER SAONE.—*St. Remy*.—Industrial school, with 75 pupils.

Farm-school at the same place.

SARTHE.—*Le Mans*.—Course of industrial and ornamental drawing; 100 pupils; three lessons weekly in the evening. Sewing-school for girls, with 30 pupils.

La Flèche.—Trade-school, (private,) with 58 pupils.

Farm-school at *La Chauvinière*.

SAVOY (UPPER).—*Sallanches*.—Clock and watch-making school, founded and supported by the town, aided by a subvention of 1,200 francs a year given by the Emperor; 10 pupils. There are two other schools of the same kind at *Cluses* and *Thônes*, the former with 15 to 25, the latter with only 4 pupils.

SEINE.—The *College Chaptal* and the *Ecole Turgot*.

The municipality of Paris has established seven industrial drawing-schools in different parts of the town, some of which are very successful.

SEINE-ET-MARNE.—A private school, with workshops for the practice of manual labor at *Lagny*.

SEINE-ET-OISE.—*Versailles*.—Public courses of geometry, drawing, &c., supported by the town.

SEINE (LOWER).—*Rouen*.—Professional courses, founded by the town. The studies occupy three years; 90 pupils. There are similar courses at *Le Havre* and *Montvilliers*, with 30 and 60 pupils respectively.

SEVRES (TWO).—*Parthenay*.—Course of agriculture, dependent on the primary normal school, chiefly intended for the pupil-teachers, to whom the lectures are given on Thursdays. The public day is Wednesday.

SOMME.—*Amiens*.—Public courses, founded by the Industrial Society.

Chemistry applied to dyeing; 100 pupils.

Mechanics; 100 pupils.

English language; 60 pupils.

German language; 20 pupils.

TARN.—*Castres*.—Trade-school, founded and supported by the municipality to give the instruction required for the local industries. It contains 39 pupils of the first year; 37 of the second; 28 of the third; 7 of the fourth; and 6 of the fifth; in all, 117 pupils.

TARN-ET-GARONNE.—*Montauban*.—Course of mathematics, geometry and mechanics applied to arts and trades. This course, which is public and gratuitous, was founded in 1828 under the auspices of M. Ch. Dupin. It is supported by the town; 50 pupils on the average.

Course of drawing, linear, graphic, and from the round, founded and maintained by the town; 60 pupils.

There is also a course of arboriculture and horticulture, with 30 pupils.

VAR.—Farm-school of *Salgues*; 33 pupils.

VAUCLUSE.—*Avignon*.—Public and gratuitous courses of drawing, chemistry, physics, and mathematics, founded by the town for the benefit of workingmen.

Farm-school at *St. Privat*.

VIENNE.—Farm-school of *Monts*.

VIENNE (UPPER).—*Limoges*.—The Haute-Vienne Society of Agriculture, Science, and Art, has here founded:—1. A drawing-school for boys; 100 pupils. 2. A drawing-school for girls; 50 pupils. 3. Modeling-school for boys; 30 pupils. 4. School of painting on porcelain, for girls; 15 pupils. 5. School of geometry; 60 pupils.

Farm-school at *Chavaignac*.

VOSGES.—Farm-school at *Lahayevaux*.

YONNE.—Drawing-schools for adults at *Auxerre*, *Joigny*, *Sens*, and *Villeneuve-sur-Yonne*.

Farm-school at *Orme-du-Pont*.

SYSTEM AND INSTITUTIONS OF SPECIAL INSTRUCTION.

The system of special technical instruction in Austria includes in its early stages, or at least recognizes, the future occupation of the pupils, in the primary schools of every grade, and in one of the grades of schools usually classed as secondary.

INDUSTRIAL INSTRUCTION IN COMMON SCHOOLS.

The first notice of the industrial element in Austrian schools, we find in the normal, or model school of Kindermann, at Kaplitz in Bohemia. In 1773, he taught and demonstrated to his pupil-teachers, and the country school-masters, how to occupy a portion of their own time and that of their older pupils, in and out of school hours, in such in-door industries as knitting, sewing, wool carding, and spinning, and out-door work as kitchen gardening, culture of trees, and raising silk-worms. "The advantages of these occupations are great and important. They protect against vice and crime, and promote the welfare of human society." Under his lead, in the first year of this century, 2,644 public schools were in operation in Bohemia, 54 of which were burgher-schools, in which the aim was "to give the future citizen an instruction adapted to his special occupation."

Instruction in needle-work and like feminine employments, is now usual in the female schools, and the girls' classes in mixed schools, and receives special attention in the industrial schools of the religious corporations and ladies' societies. Instruction in the care of mulberry trees, grape vines, bees, and orchards is given in the normal schools, and by their pupils to the older boys in a large number of districts.

SUNDAY AND OTHER IMPROVEMENT SCHOOLS.

In close connection with the common school, and through the same agencies, the "further instruction" of boys after leaving school and entering into apprenticeship, is carried on with the assistance and special inspection of Chambers of Commerce, and local associations of tradesmen. The instruction is given on Sunday and holidays (except the high feasts), and in the morning and evening of other days. It is not confined to a review of the rudimentary studies, but is extended to higher arithmetical calculations, book-keeping, bank dealings, business correspondence and forms, natural history, and particularly to drawing. A record of attendance is kept, and delinquent parents and employers are fined, and proprietors of large establishments are subject to arrest and imprisonment for persistent neglect in respect to their apprentices and other juvenile operatives.

BURGHER SCHOOLS.

The burgher school, which belongs to the primary system, originally intended to prepare pupils for the occupation of tradesmen and mechanics by a better general education, has become a subordinate real school, the students generally entering the higher real school after finishing the course.

There are thirty hours of instruction per week, embracing religion, composition, German, arithmetic, geography, natural philosophy, chemistry, geometry, architecture, geometrical and architectural drawing, and a little historical detail. French, Italian, English, music, and gymnastics, are optional. The tuition fees are small, and are remitted if the pupil is poor and has conducted himself well.

In 1865, there were 117, of which but seven gave a three years' course, the rest only two years; instruction being given by the director and catechist of the primary high school, with 365 additional teachers. The instruction in arithmetic, German composition, geography, natural philosophy, chemistry and drawing, is given in the higher classes in special reference to a commercial and mechanical career.

REAL SCHOOLS.

The object of the real school is to give to its pupils a general education, the dead languages being excepted, and "to fit them to enter the technical schools, or to pursue industrial careers."

They have been gradually developing since 1751, but do not appear as distinct organizations before 1851. In 1863, there were forty of them in the Austrian empire, of which there are sixteen "lower real schools," with a course of only three years, and twenty-four "complete real schools," which carry their students through six years, thus adding three years to the course at the lower real school. There is, in three of the lower schools, an additional class, in which instruction is given in technology, commodities raw and manufactured, commercial transactions, and particularly in drawing.

The lower real schools turn out pupils well prepared, theoretically, to become master workmen and overseers; those called complete, prepare students who finish the course, to enter the technical schools.

The course of study varies somewhat in different places. The obligatory studies are, German (or the language of the province), one modern language—French, Italian, or English, geography, history, arithmetic, geometry, physics, chemistry, commercial law, natural history, drawing, modeling (in the highest class), ornamental penmanship, architecture, and mechanics. Latin has been added in some of the lowest classes. The modern languages, singing, gym-

nastics, and stenography are optional. Of the above studies, elementary mathematics, machinery, and the modern tongues are taught only in the higher classes, in which calligraphy is no longer obligatory.

The complete schools have twelve professors, the lower schools seven. Those applying for these positions must pass an examination as to their scientific attainments, and undergo a year's probation in a public real school, before receiving the appointment. At the head of the corps of teachers is a director, who, with the council of teachers, governs the school, subject to the supervision of the general council of schools.

The fees paid by pupils vary from eight to twenty florins annually, besides a fee of about two florins at admission. All the fees may be remitted to poor pupils conducting themselves well.

The yearly expenses of a lower school amount to from 8,000 to 11,000 florins; of a higher school, to from 15,000 to 20,000. They are either imperial royal, in which case the general government supports them, or communal, supported by the towns. Besides these, two are endowed, and one is private, assimilated.

SPECIAL TECHNICAL SCHOOLS.

Technical instruction in Austria is of very long standing, and at the beginning of this century three important technical schools were in operation, and others were instituted long before the neighboring German States had moved in this direction.

In 1717, a professorship for military and civil engineering was established at Prague, which gradually extended itself into a school of engineering, and became in 1806 the first independent polytechnic school in Austria. It has undergone many changes, and in 1865 was organized on the plan of special schools, uniting on a general preparatory course.

In 1745, the Empress Maria Theresa organized in Vienna the first university lectures on experimental physics, and in 1757, on mechanics, and in 1763, permitted instruction in book-keeping to be given at the Piarist schools, and at the same time established several schools for apprentices. In 1770, a Real and Mercantile Academy was established in Vienna, which became in 1816 the polytechnic institute.

In the year 1763, the first lectures were held on mining at Schemnitz, and in 1770, the school in Prague being given up, the Mining Academy was founded there. Its fame was soon so great that Fourcroy, in his brilliant speech made in the French National Assembly, 1794, as an incentive to the erection of the polytechnic school in Paris, referred to this school as a well known model for imitation.

In 1811, the Johanneum in Gratz was founded by the Archduke John, as a museum and institution for natural sciences, and was afterwards changed, little by little, into a polytechnic institute.

In 1843, the Real and Mercantile School in Lemberg was changed, by the addition of several courses, into a technical institute, and in 1846, a technical school was founded at Cracow, and in 1849, another at Brünn.

In 1856, the Industrial School at Pesth was removed to Ofen, and received there the organization of a Polytechnic Institute, so that in 1859 there were seven technical institutions of the first class, with 157 professors, and 3,531 students, distributed as follows :

Location.				Professors.	Students.
Vienna Polytechnic Institute,	-	-	-	54	1963
Prague	"	"	-	25	617
Brünn	"	"	-	13	196
Lemberg	"	"	-	11	229
Cracow	"	"	-	14	171
Ofen	"	"	-	24	201
Gratz	"	"	-	16	154

The plan of instruction embraced both technical and commercial studies, except at Prague and Ofen, where technical instruction only was given. In Vienna there was a preparatory school, and a school of industrial drawing, which accounts for the larger number of pupils; Cracow has a school of fine arts, and of music, and Ofen a preparatory school.

In 1850, a reorganization of the technical institutions was proposed, by which they should be raised into institutes of the highest class, with a system of special schools, as had been already instituted at Carlsruhe. After many years of agitation, in which the professors, and large manufacturers, and capitalists, as well as statesmen, took part, a new plan of studies was introduced at Prague in 1864-65; at Gratz in 1865-66, and in Vienna in 1866-67. At Vienna and Prague there are four schools: 1. Civil Engineering; 2. Architecture; 3. Machinery; 4. Technical Chemistry. At Gratz, agriculture and forest economy, and surveying take the place of architecture. At Gratz and Vienna there are two general classes, which precede the special courses. At Brünn by decree of 1866, two regular courses for construction of machinery and technical chemistry, and three special courses, one for commerce, and one for master mechanics and builders, and a third for miners, have been established.

Besides the Technical schools, there has grown up in Austria special schools of Agriculture, Commerce, Navigation, &c., of which a rapid survey will now be given, drawn from original documents, and the reports of the French and English commissioners.

II. TECHNICAL INSTITUTIONS AND CLASSES.

We will now give from official documents, or from the Reports of the English and French Commissions, drawn up from the same or similar documents, with the advantage of recent personal visits to the institutions described, a brief notice of a few specimens of each grade of scientific and technical instruction.

APPRENTICE AND WORKMEN'S SCHOOLS.

The schools, which are known in Prussia and great part of Germany by the name of Improvement Schools (*Fortbildungsschulen*) are in Austria called Trade Schools (*Gewerbeschulen*), or industrial schools. The confusion which these different significations of names may cause, ceases when we examine the object, the conditions, and the nature of the instruction given in these establishments. Their creation in Austria, and in Vienna especially, dates only from the year 1857, when the Industrial Society was formed, with the approbation of the Government and the assistance of the municipality.

The members of this Society imposed on themselves, in principle, the obligation of sending their apprentices, during the last year at least of their time, to follow the classes, which, under the title of *Gewerbeschulen*, should be opened in the *Real* or practical schools of the State or those of the town, and also to pay a subscription in proportion to the importance of their establishments, even when they had no apprentices. This voluntary contribution is fixed at four kreutzers per florin (or one-fifteenth) of the taxes paid. On the other hand, it was decided that the apprentices should attend these classes during their last year, or in default should not be regarded as having finished their apprenticeship.

The teaching in each of these schools is under the supervision of the director, and is given by the professors of the practical school to which it is attached. The latter receive an addition to their salary in proportion to the number of hours' lessons; if one of the professors be unable to undertake this additional work, the director appoints another person in his stead.

In 1861, owing to the efforts made by the Chambers of Commerce and the manufacturers, there already existed in the suburbs of Vienna five of these schools annexed to the practical schools of Gumpendorf, Wieden, Landstrasse, Jägerzeile, and Schottenfeld, as well as a school of weaving (*Weberschule*) at Gumpendorf, and a practical school of building. They have the use of the premises, collections, and teaching appliances of the practical schools without any expense; but the models of a more technical kind required are purchased with their own funds.

1. TRADE SCHOOLS FOR APPRENTICES IN VIENNA.

There are six trade or industrial schools in Vienna attached to the Real Gymnasium or Practical Schools, having a general resemblance, but with special instruction adapted to the vocation of the pupils who are apprentices and journeymen from the vicinity of the school.

The instruction is divided into an elementary section having two classes, and several sections relating to different industrial specialties. In the elementary section theoretical instruction is given and the pupils are practised in the art of drawing, with especial adaptation to the future career of each. In the special sections, the knowledge acquired is applied to the branches of industry chosen

by the pupil. The organization of the specialties must be adapted, in every district, to the requirements of the local industries. The specialties of the Gumpendorf school are therefore principally those necessary for weavers, workers in silk, ribbons, trimmings, dyeing, &c. The school of Wieden has specialties connected with machinery, and such trades as brass-turners, joiners, bookbinders, workers in copper and bronze, founders, &c. In the Jägerzeile school the courses bear chiefly on the building trades.

The number of hours is nine and a half during the week, partly after half-past six in the evening, and partly on Sundays in the forenoon. No class must exceed 50 pupils; if there are more, it must be divided into two. In the first class of the elementary section the time allotted to the different lessons is as follows: Religion, 30 minutes; German language, 2 hours; arithmetic, 2 hours; calligraphy, 1 hour; drawing, 4 hours; total, $9\frac{1}{2}$ hours per week.

The following is the allotment of time in the second class of the elementary section: Religion, half hour; German, exercises in style and commercial correspondence, 1 hour; arithmetic and mensuration, 1 hour; elements of physics, 2 hours; geography, 1 hour; drawing, geometrical and free-hand, projections, drawing of figures and ornament, and modeling, 4 hours; total, $9\frac{1}{2}$ hours per week.

By this arrangement a single pupil attends, including the three kinds of drawing, $17\frac{1}{2}$ hours instruction per week at most.

In the special sections the lessons are thus distributed: Industrial drawing, 4 hours; architectural drawing, estimates, 4 hours; drawing of machines, mechanics, study of machines, 4 hours; modeling, and drawing from the round, 4 hours; general chemistry, 1 hour; study of raw materials, 1 hour; commercial book-keeping, &c., 1 hour; applied mechanics, 1 hour; applied chemistry, 1 hour; total, 21 hours per week.

In the two elementary sections, the instruction is compulsory for all the courses. In the special sections, on the contrary, the choice of courses is left to the pupils.

The school year commences on the 1st of October and ends on the 31st of July. At the end of the year, the pupils receive certificates giving an account of their behavior, application, and progress in the different branches. The most proficient pupils receive as prizes silver or bronze medals, or honorable mentions.

The director of the practical school, to which the school for apprentices is annexed, is the principal manager. He, however, shares this authority with a delegate of the Industrial Society. They both endeavor to introduce into the teaching all the improvements required by the necessities of the local industries as indicated by the presidents of the industrial associations which patronize the schools. The instruction, as already stated, is given by the professors of the corresponding courses of the practical school (*Realschule*), provided that the professors have sufficient time at their disposal and are satisfied with the payment offered. When any professor declines to undertake a course in the apprentice school, the director has to look for a teacher elsewhere. For the technical instruction, the director may, with the authorization of the municipal authority, admit as professors either manufacturers or foremen, who, in everything connected with the teaching, will be under his orders. For the purchase of apparatus and all things necessary for consumption and use, there is a yearly budget placed at the disposal of the director in concert with the professor of the specialty concerned.

The general management of the trade schools of Vienna is entrusted to a council composed of the presidents and vice-presidents of the chambers of com-

merce and manufactures, of the representatives of the province and city of Vienna, of the president of the committee of each school, and, lastly, of members of the chambers of commerce elected for the purpose. This council meets on certain days in general assembly, to ascertain, in the presence of the directors, the state of the schools and to deliberate on the means of extending their usefulness.

Every member of the Industrial Society for promoting the establishment of schools, whether he have apprentices or not, is bound to pay a contribution calculated on such a basis that the total, with the addition of sundry subventions, will cover the whole probable expenses of the school during the current year. By so doing, he has the right to send his apprentices (if they have received the proper elementary instruction) to the school, without any further payment, except for writing and drawing materials. Apprentices, after becoming journeymen, cannot continue to attend the school without the payment of regular fees.

2. MANUFACTURERS' AND TRADESMEN'S SCHOOL OF PRAGUE.

In 1847, the Society for the Encouragement of Industry in Bohemia founded a Sunday and evening school for drawing and modeling in plaster for apprentices in Prague, which, in 1860, was extended in its range and thoroughness of instruction to the working classes generally. The plan was drawn up by an eminent engineer, who had studied the organization of industrial education in France and other countries, and adopted by the Diet of Bohemia and the council of the town.

The town provided a building for the establishment, as well as the furniture, and a yearly grant of 1,500 florins, the Diet voted 2,000 florins, and the Industrial Society engaged to give another 2,000 florins. The school, therefore, has a fixed income of 5,500 florins. The immediate superintendence of the school is entrusted to a council of three members elected by the Diet, three members of the municipal council, and three members of the Industrial Society.

The school was opened in 1863. The pupils are taught through the medium of both the German and the Bohemian languages, which, in some cases, renders two professors necessary for the subjects. The 16 professors are nearly all attached to the professorial staffs of the two higher practical schools of the town, in the different class-rooms of which the lessons are given.

The plan of studies for the year 1867-68 is as follows :

Sunday.	{	From 8 to 9 a.m.,	-	Technology.
		From 8 to 10 p.m.,	-	Practical weaving.
	{	From 10 to 12 a.m.,	-	Exercises in linear drawing.
				Exercises in free-hand drawing.
				Drawing of machines.
				Free-hand drawing of ornament.
	{	From 2 to 4 p.m.,	-	Exercises in linear drawing.
				Exercises in free-hand drawing.
				Drawings for construction of buildings.
				Free-hand drawing of ornament.
Monday evening.	{	One hour,	-	Lectures on machines.
				Chemistry.
				Natural history.
				Algebra and geometry.
	{	Two hours,	-	Drawing for construction of buildings.
				Modeling.

Tuesday evening.	One hour,	-	-	{ Arithmetic.
	Two hours,	-	-	{ Art of construction.
	Two hours,	-	-	{ Written compositions and style.
Wednesday evening.	One hour,	-	-	{ Chemistry.
	Two hours,	-	-	{ Drawing of machines.
	Two hours,	-	-	{ Modeling.
Friday evening.	One hour,	-	-	{ Drawing of patterns.
	Two hours,	-	-	{ Algebra and geometry.
	Two hours,	-	-	{ Lectures on machines.
Saturday evening.	One hour,	-	-	{ Art of construction.
	Two hours,	-	-	{ Lessons in ornamentation.
	Two hours,	-	-	{ Drawing of patterns.
Saturday evening.	One hour,	-	-	{ Physics and mechanics.
	Two hours,	-	-	{ Technology.
	Two hours,	-	-	{ Lectures on machines.
Saturday evening.	One hour,	-	-	{ Art of construction.
	Two hours,	-	-	{ Modeling.
	Two hours,	-	-	{ Geography.
Saturday evening.	One hour,	-	-	{ Natural history.
	Two hours,	-	-	{ Lectures on machines.
	Two hours,	-	-	{ Arithmetic.
Saturday evening.	One hour,	-	-	{ Book-keeping.
	Two hours,	-	-	{ Physics and mechanics.
	Two hours,	-	-	{ Modeling.

In winter evening classes are held from half-past six to half-past eight, and in summer from seven to nine o'clock. The lectures and drawing relating to the building arts end at Easter, those for other industries last from the beginning of October to the end of July. Candidates for admission to the preparatory school must be able to read, write, and calculate; and to attend the courses of the special divisions they must produce a certificate of capacity from the preparatory school, or from a lower real school. The fee is half a florin a year for each course attended; it is paid half-yearly, and in advance.

The technical and practical teaching is distributed into five principal divisions, according to the branches of industry in which the pupils are engaged.

The *first* is the school for the building trades, for masons, stone-cutters, carpenters, joiners, &c.; the instruction includes geometry, the elements of algebra, the art of building in general, drawing for building and modeling, notions of physics and mechanics, the effects of heat; these studies require two winter half-years. The *second* is the school for the construction of machines; for smiths, mechanicians, conductors of machines, coppersmiths, modelers, joiners, &c.; they are taught geometry, the rudiments of algebra, the elements of physics and mechanics, the description and study of machines, and also drawing; these studies require two years. The *third*, or chemical school, is for dyers, brewers, tanners, soapboilers, &c.; the lectures treat of general chemistry and chemical technology. The *fourth* is the school for weaving and spinning; here the pupils are taught practical weaving, the calculations relative thereto, the preparations of the cards, taking out of patterns, &c. The *fifth*, or school of industrial art, is intended for manufacturers of porcelain and earthenware, glass blowers, goldsmiths, confectioners, &c.; the instruction consists of drawing and modeling.

At the close of the courses there are examinations, after which certificates of capacity are given to the deserving, and the two pupils at the head of each division receive prizes. The number of workmen who attended the Prague school in 1863-64 was 762. The expense was 5,900 florins, of which 2,380 was for professors, besides 1,620 for drawing and modeling.

3. MECHANICS' SCHOOL AT BRUENN.

In 1851, the Chamber of Industry and Commerce in Brünn (a city, in 1860, of 45,000 inhabitants,) stimulated by the government activity in the thorough organization of real schools, established a Mechanics' school with two sections, the elementary for apprentices, who are deficient in even primary education; and a higher for such additional studies as geometry, physics, free-hand, and geometrical drawing, besides lectures and practice in book-keeping, banking, and commercial correspondence. Chemistry is an optional study for ten hours a week.

The pupils are divided into three principal classes: (1) for builders, with a special winter course for masons, joiners, and stone-cutters; (2) for mechanics, including a special class in weaving; (3) for technical applications of chemistry.

The instruction is given on Sunday, and the evenings, and in the winter, one hour by daylight, on Thursdays, is secured for drawing. Besides, several special assistants; and in the weaving class, two foremen from the largest establishment in the city, twenty teachers from the real school, higher technical institute, and gymnasium, are employed. The school is free, and the attendance large.

REAL GYMNASIUM OR PRACTICAL SCHOOL.

In 1867, there were 87 Real schools of the lower or three years' course, and 24 of the higher or five years' course. These are all located in the chief towns, but draw their pupils from all parts of the districts where they are placed.

HIGHER PRACTICAL SCHOOL AT PRAGUE.

This school, the origin of which the Bohemians trace with justifiable pride through the successive transformations, which the progress of industry rendered necessary, to the year 1576, in the reign of Rudolph II., an epoch long anterior to the foundation of most of the schools now existing in Germany, follows the same programme of studies as the Vienna schools, as will be seen from the following table. The pupils, (513 in 1867,) are divided into six classes, requiring six years. The subjects of instruction and number of hours are indicated below.

	1st Class.	2d Class.	3d Class.	4th Class.	5th Class.	6th Class.	Totals.
Religious instruction, -	2	2	2	2	2	2	12
German language, -	4	4	4	3-5	4	4	23-25
Geography and history, -	3	3	3	3-5	4	4	18-20
Arithmetic, -	4	4	3	-	-	-	11
Natural history, -	2	2	-	2	2	2	10
Useful knowledge, -	2	3	-	-	-	-	5
Bohemian language, -	3	3	3	3	3	3	18
Calligraphy, -	2	2	2	2	-	-	8
Freehand drawing, -	-	6	7	6	6	6	31
Chemistry, -	-	-	6	2	2	2	12
Construction of buildings, -	-	-	2	-	-	-	2
Mathematics, -	-	-	-	8	5	2	15
Linear drawing, -	-	-	-	-	4	4	8
Physics, -	-	-	-	-	4	4	8
Description of machines, -	-	-	-	-	-	2	2
Drawing of machines, -	-	-	-	-	-	2	2
Modeling, -	-	-	-	-	-	4	4
Geometry and construction drawing, -	10	4	-	-	-	-	14
Italian, -	{ Out of class, - - -					2	-
French, -						2	-
Stenography, -						2	-

The French commissioners remark: Of all the practical schools in Germany that of Prague is certainly the one where linear drawing is best taught, and we are inclined to attribute this fact to the attention given from the very outset to the practice of freehand drawing, which early habituates the pupil to trace his lines with a light hand.

The instruction is given in German and Bohemian, but the professors are free to choose which language they please. There are, in some cases, professors of each language for the same course. The class-rooms, amphitheatres, and laboratories are spacious and well arranged. The collections are well stocked with models, and the workshop for modeling will accommodate 25 pupils at once.

IMPERIAL HIGHER PRACTICAL SCHOOL AT VIENNA.

The Imperial gymnasium in the Landstrasse is accommodated in a building rented for the purpose, formerly the residence of Prince Lichtenstein. It has numerous collections, especially of mineralogy and natural history. Well arranged laboratories have been fitted up to enable the pupils who are so disposed to make themselves acquainted with the elements of chemical manipulation. There is a workshop for modeling, and the pupils are exercised in that art from a drawing, and conversely in drawing from models. The drawing-class rooms are very spacious and well lighted: the pupils have plenty of room. For drawing from the round or from models in relief, even elementary, there are cabinets or cells lined with green cloth, and in which the models are lighted by a single gas burner, so that the shadows may be more distinct.

The time devoted, weekly, to lessons and graphic exercises, under the eye of the professors, is distributed as shown in the following table:

	1st Class.	2d Class.	3d Class.	4th Class.	5th Class.	6th Class.	Totals.
<i>Compulsory.</i>							
Religion, - - -	2	2	2	2	2	2	12
Arithmetic, - - -	4	4	3	-	-	-	11
Mathematics, - - -	-	-	-	9	5	2	16
German, - - -	5	5	4	5	3	4	26
Geography and history, -	3	3	3	4	4	4	21
Natural history, - - -	2	2	-	2	2	-	8
Physics, - - -	2	4	-	-	4	4	14
Chemistry, - - -	-	-	6	2	2	2	12
Writing or calligraphy, -	2	2	2	2	-	-	8
Freehand drawing, -	10	6	7	4	6	6	39
Descriptive geometry drawing, - - -	-	-	-	-	4	-	4
Linear drawing of buildings, -	-	4	3	2	-	-	9
Machine drawing, - - -	-	-	-	-	-	4	4
Lectures on machines, - - -	-	-	-	-	-	2	2
Modeling, - - -	-	-	-	4	4	4	12

The time, per week, allotted to optional studies, is as follows: English language, 5 hours; Italian language, 3; French language, 3; stenography, 2; singing, 2; gymnastics, 2.

We see by this table the immense importance attached to the teaching of freehand drawing, almost exclusively executed from models in relief. For the six classes it occupies 39 hours per week, whilst to linear drawing with rule and compass only 16 hours are given.

SPECIAL INSTRUCTION IN AGRICULTURE AND RURAL AFFAIRS.

There are three kinds of institutions designed to give special instruction in agriculture and kindred industries, viz: 1. Schools of Agriculture, which are of three grades; 2. Schools of Forestry, which are likewise classified into superior, middle, and lower grades; 3. Veterinary Schools, of which there are 6 with 21 professors, and 391 pupils.

I. SPECIAL SCHOOLS OF AGRICULTURE.

The Special Schools of Agriculture, of which there are seventeen, may be classed as follows:

1. The superior agricultural schools of Austria are among the oldest and best in Europe, that at Krumman in Bohemia, having been founded in 1799, and that at Graetz, Trieste, Lomberg, and Trutsch, in 1809.

The school at Graetz has nine professors, a model farm, a botanical garden, rich collections in natural history, and an establishment for silk worms.

The superior school at Krumman in Bohemia, founded by Prince Schwarzenberg in 1799, is located on an immense domain, and is conducted with every appliance of botanical gardens, model farms, stock, illustrative collections of implements and machines, laboratories, herbarium, and numerous and able professors.

The superior school or academy at Altenburg in Hungary, provides for the complete study of agricultural science. It has nine professors and 147 pupils. The school fee is 63 florins; the total yearly cost 19,400 florins. It is a government establishment, possessing collections of all kinds, a chemical laboratory, a technological gallery, a library, and a botanical garden. It gives instruction in arboriculture and in rural and forest management. The exhibition of samples of the grain cultivated, and models of the implements used on the model farm, of the insects and animals which injure the plants, the herbals and soils, the copy-books, and drawings by the students, exhibited at Paris Exhibition of 1867, received the special notice and award of the jury.

2. Middle agricultural schools have been founded at Grossau, in Lower Austria; at Teschen-Liebwerd, in Bohemia; at Kreutz, in Croatia, and at Dublany, in Gallicia. The studies occupy two years. There are 27 professors, and 164 outdoor pupils. The school fee is from 30 to 52 florins. The yearly expenditure amounts to 9,200 florins. They are maintained by local resources and agricultural societies.

3. There are seven lower agricultural schools: at Grossau, in Lower Austria; at Liebejei-Rabin; at Teschen-Liebwerd, in Bohemia; at Gratz, in Styria; at Kreutz, in Gallicia; at Ezernichow, in Gallicia; and at Laybach, in Carinthia. These schools have 23 professors and 230 pupils. The school fee varies from 30 to 40 florins, partly met by the work of the pupils.

4. Besides the above, there are several schools devoted to special departments of rural economy, such as raising of bees, &c., as well as chairs of agriculture in 13 higher literary institutions.

II. SPECIAL SCHOOLS OF FORESTRY.

The Schools of Forestry, (9, with 36 professors,) are classified as follows:

1. Superior forest academies are established at Mariabrunn in Lower Austria, and at Schemnitz in Hungary. The studies extend over from two to three years. The qualification for admission is a certificate of studies from a gymna-

sium or a superior practical school. These establishments have a museum, collections, a botanical garden, and a laboratory. They have 14 professors and 160 pupils in the two together. The school fee is 10 florins. There are some gratuitous pupils. Both schools are maintained by the government.

2. The middle forest schools are situated at Wissewasser, in Bohemia; at Aussen, in Moravia; at Kreutz, in Croatia. The studies occupy from two to three years. The primary school preparation only is required. These schools have 12 professors and 100 pupils. The gratuitous admission is compensated by the work of the pupils.

3. At Pibram, in Bohemia; at Windschacht, in Hungary; and at Nagnay, in Transylvania, there are lower Forest Schools. The courses extend over two or three years. The preparation required is the primary school and the habit of working. There are eight professors and eighty-seven pupils, all gratuitous. These establishments are maintained by the State.

IMPERIAL FOREST ACADEMY AT MARIABRUNN.

The Imperial Forest Academy at Mariabrunn passed through various phases before it was reorganized in 1866. Formerly the Minister of Finance had the general superintendence, but at present it is assigned to the Minister of Commerce and Political Economy. Its aim is to impart a thorough theoretical and practical instruction in forest economy, for which purpose the large imperial forests in the neighborhood are placed at its disposal. The course is of three years duration, and consists partly of class lectures, and partly of scientific excursions and studies in the surrounding forests.

The students are either regular, who go through the complete course, or extraordinary, who take only a partial course. Students are admitted on presentation of a testimonial certificate of satisfactory scholarship in a real school or gymnasium; if from the latter, they must give additional evidence of proficiency in geometrical drawing. Since "maturity examinations" have not been generally introduced in the real schools, those students who cannot present a testimonial, have to undergo an examination extending over all those subjects which are required for admission at the polytechnic institute in Vienna. As a general rule all candidates must give proof that for one year they have been engaged in practical forest economy. To be admitted as an extraordinary student, the candidate must have completed the 18th year of his age, and be sufficiently versed in the preliminary studies.

Formerly students were obliged to live in the academy buildings, which condition has been lately abolished. Ordinary students, who have gone through the complete course of instruction, may be admitted to a rigorous examination, (for a diploma,) the conditions of which are prescribed by an imperial resolution of January 16th, 1850. This examination is held by a special examination committee, and consists of two divisions: First, mathematics, geodesy, forest surveying, mechanics, construction of machinery, architecture, chemistry, forest botany, geology, climatology, forest entomology. Second, forest economy in all its various branches. This examination is both written and oral.

The director of the academy is chosen by the ministry, who at the same time has the functions of a professor, and is assisted by four professors and three assistants.

The salary of the director is 3,000 florins; that of the professors, 1,500; 2,000 after ten years' service, and 2,500 after twenty years. The assistants' salary is 500 florins. The director, professors, and assistants live rent free in the academy buildings.

ACADEMIES AND CLASSES FOR COMMERCIAL INSTRUCTION.

We find in Austria the earliest efforts to adapt schools and instruction to the needs of a commercial career. The plan drawn up by Wolf of Baden, and approved by the Empress Maria Theresa, (who had authorized instruction in book-keeping in the Piarist schools in 1763,) for a Commercial Academy in Vienna in 1770, was intended "to offer to young men who intend to devote themselves to commercial pursuits, a fundamental knowledge of all that distinguishes a skillful commercial man from a shop-keeper." The number of pupils was limited to sixty, and the course embraced, besides other studies, the German, French, and Italian languages, general and commercial geography, commercial and maritime law, book-keeping, and drawing. In 1799, the plan of this academy was remodeled, and again in 1808, making the studies more scientific, as well as more practical. On the model of this school, institutions were founded at Brunn in 1811, at Brody in 1815, and at Lemberg in 1817, and a commercial class, in the same year, was added to the navigation school at Trieste. In all the modifications of the real schools, the commercial classes have been provided for.

ACADEMY OF COMMERCE AT VIENNA.

1. In 1857, the Academy of Commerce at Vienna was founded for young men intending to follow commercial pursuits. A capital of 400,000 florins was subscribed, and suitable premises built for the purpose. The school is provided with technological collections, a museum of natural productions, and complete chemical laboratories. A committee composed of nine members presides over the general management. The instruction is given in two divisions, one of them preparatory, requiring two years' study, the other technical, occupying the same length of time. The number of hours per week devoted to the different branches of instruction is shown in the following table:

PREPARATORY DIVISION.				TECHNICAL DIVISION.			
SUBJECTS TAUGHT.	No. of hours.		Totals.	SUBJECTS TAUGHT.	No. of hours.		Totals.
	1st year.	2d year.			1st year.	2d year.	
Religion, - -	2	2	4	Commercial calculations, -	3	3	6
German, - -	4	3	7	Book-keeping, - - -	2	-	2
Arithmetic, -	5	4	9	Commercial correspondence,	3	-	3
Geography, -	4	3	7	Political economy, - -	3	3	6
History, - -	3	3	6	Commercial law and exchanges,	-	-	-
Natural history,	4	2	6	Geography, commercial and	-	-	-
Calligraphy, -	2	4	6	statistical, - - -	2	2	4
Book-keeping, -	-	2	2	Commercial history, - -	3	2	5
Physics, - -	-	2	2	Chemistry, - - - -	3	2	5
				Physics, - - - -	2	-	2
				Study of merchandise and tech-	-	-	-
				nology, - - - -	3	4	7
				Austrian commerce and manu-	-	-	-
				factures, - - - -	-	-	-
				Model counting-house, - -	-	8	8
Totals, - -	24	25	-	Totals, - - - -	24	24	-

Besides this compulsory curriculum there are French, English, and Italian classes, one or other of which every pupil must attend, or two, or all, if he pleases. There are excellent laboratories for those pupils who wish to learn how to analyze different kinds of merchandise. This study is altogether op-

tional. In winter, qualitative analysis is taught, and quantitative in summer. The school fee is 157 florins, 50 kr. a year for all the courses.

Into the first class of the academy are admitted: those youths who have satisfactorily finished a higher real school, or higher gymnasium, or the preparatory class of some commercial academy; furthermore, those who in a rigorous examination for admission give satisfactory evidence of possessing the degree of general knowledge acquired usually in the preparatory course of the academy. As a general rule, only such are admitted to this examination as have entered their 16th year. For entering the second class of the academy, it is necessary either to have gone through the first class, or pass a rigorous examination.

To the first year of the preparatory course are admitted: youths who have absolved a three years' class, lower real school or lower gymnasium; those who (wherever they may have received their previous instruction) by a rigorous examination show the degree of knowledge usually acquired at the schools.

To the second year of the preparatory course, those are admitted who have either gone through the first class of the same course, or (wherever they may have been educated) show that degree of knowledge which is necessary for understanding the subjects taught in the second class. Only such are admitted to an examination for this class as have entered the 15th year of their age. Every scholar is obliged to attend all the recitations marked obligatory in the plan of study. Extraordinary students are only admitted in the higher classes.

At the close of the courses there are examinations for those who please to present themselves, and certificates of capacity are given to all who pass satisfactorily. Among the optional branches of instruction are stenography, to which some importance is attached, and drawing, which is cultivated both artistically and for its commercial uses.

Besides the regular classes during the day, there are evening classes for persons already engaged in business. These are held from 7 to 9 o'clock from October till Easter, and are attended by about 250 persons who pay four florins for each course, with the exception of the living languages, which are only two florins, and stenography, fixed at one florin. The subjects taught in these classes are commercial arithmetic, book-keeping, commercial correspondence, the rules of commerce, and exchange, &c., the living languages, and stenography. The majority of the persons attending the evening classes present themselves for examination to obtain certificates.

ACADEMY OF COMMERCE AT PRAGUE.

2. The Academy of Commerce at Prague was founded in 1826. It has a three years' course, in addition to a certificate of studies completed in the trade school, or the real gymnasium. The French language is obligatory; English and Italian are optional studies. There were in 1867, 204 pupils.

ACADEMY OF COMMERCE AT PESTH.

3. The Academy of Commerce at Pesth was founded in 1859, by the Chamber of Commerce, and in 1867 had 136 pupils, distributed through a three years' course, which was founded on the basis of the studies of the real school completed. It employs 29 professors, a portion of whom are attached to other institutions of the city, giving special instruction in this academy.

The commercial academies at Graetz and at Reichenberg (Bohemia) has a similar organization.

ACADEMIES OF THE FINE ARTS AND INSTRUCTION IN DRAWING AND MUSIC.

The following are the schools of art, as applied to painting, sculpture, engraving, and music, in Austria :

ACADEMIES AND SCHOOLS OF ART.

1. The Imperial Academy of the Fine Arts in Vienna was founded by Joseph I, in 1704, and completed by Charles V, in 1726. It is a State institution, as a gallery, a body of artists, and a school of instruction in art having 11 professors and an average of over 200 pupils. It has a valuable collection of pictures, several of them by the first artists, such as Claude, Murillo, and Titian.

2. At Gratz, there is an Academy of Painting, maintained by the province, with 30 to 50 pupils.

3. At Prague, the Academy of Arts is maintained by the "Patriotic Society of the Friends of Art," with an average of 61 pupils.

4. The School of Fine Arts at Cracow is maintained in connection with the Technical Institute, with 5 professors and 24 pupils.

5 Drawing is taught as a regular and indispensable branch in all technical schools, and in fifty-two art schools so designated.

INSTRUCTION IN MUSIC.

1. The Conservatory of Music at Vienna originated with an association, but receives an annual subsidy from the government. It has a six years' course; fees, 4 to 6 florins per month. It has a director, 20 professors, and an average of over 200 pupils of both sexes.

2. The Conservatory of Music at Prague is supported by the "Society for the Improvement of Music," with aid from the government. It has three departments: one for instrumental music, with a six years' course; one for singing, with a two years' course; and one for the opera, with a two or three years' course. The teaching is gratuitous for natives. There is a director, a sub-director, and 19 professors.

3. The fifty-two art schools mentioned above, are also schools of music. They are partly organized by associations, partly by professors, and number in all, 231 professors, and 3,973 pupils of both sexes.

SPECIAL SCHOOLS FOR FEMALE EDUCATION.

There are several institutions of special and professional instruction for women, of which we give a brief notice.

1. There exists in Vienna an Institute, where the daughters of officers with limited means and large families are educated so as to be able to take situations as governesses in wealthy families.

The pupils are 78 in number, and the expense of the establishment is defrayed by the government and private benefactions.

Girls are admitted from six to eight years of age, and remain till they are 20. The pupils are distributed into four classes, and each class has two divisions.

The directress of the establishment has under her orders four sub-directresses, a mistress for needlework, and a mistress to teach housekeeping.

2. There are 8 schools for midwives: at Linz, Klagenfurt, Laybach, Trieste, Alle-Laste near Trent, Zara, Venice, Czernovitz. Instruction of the same kind is also given to women at the faculties of medicine and surgical establishments

A large number of apprentice-midwives receive considerable pecuniary assistance during their studies from the provinces and townships.

Candidates must be at least 24 years of age, and less than 50, must be able to read and write, be of good reputation, and of healthy constitution.

The course of instruction occupies, according to circumstances, four, five, or six months. It is both theoretical and practical, and is given by a professor of obstetrics, aided by a midwife and a nurse.

In most of the schools there are two promotions yearly. On leaving, the pupils have to undergo a severe examination, for which those who have the means pay a fee of 30 florins.

There are ten professors engaged in these schools, with a like number of midwives and nurses. The professor's salary is from 420 to 630 florins. More than 1,200 midwives are instructed every year in these establishments. The expenditure amounts to 9,815 florins.

INSTRUCTION IN MINES AND METALLURGY.

Austria was one of the earliest to establish courses of instruction in the sciences connected with the profitable exploration of mines, and the smelting of ores. The Academy at Schemnitz was founded in 1763, lectures having been given at even an earlier period to a class of men charged with the superintendence of the salt-works, mines, collieries, and furnaces belonging to the crown.

MINING ACADEMIES.

Mining academies exist at Schemnitz, in Hungary; at Leoben, in Styria; and at Pibram, in Croatia.

The courses last from two to four years. The qualification for admission is a certificate from a gymnasium or a higher practical school. There are 23 professors and 255 pupils. The school fee is 10 florins, and many pupils are admitted without payment. The total expense is 14,700 florins. These establishments are supported by the State.

In addition to these special schools of mining, the sciences which belong to the subject are thoroughly taught at the Polytechnic School, and illustrated in the collections of the Geological Institute, at Vienna.

MINING ACADEMY AT SCHEMNITZ.

The Mining Academy at Schemnitz was founded during the reign of Maria Theresa, to aid in the developing the mines adjacent to that town, and distributed through the surrounding district, and in training engineers and overseers of the imperial mines in other parts of the empire.

The institution is well endowed, and well equipped with a laboratory, and all the facilities of assaying and smelting. The course extends through three years. *First year.*—Geometry, algebra, trigonometry, and conic sections, physics, mechanics, crystallography, and drawing. *Second year.*—Chemistry, mineralogy, metallurgy, and geology. *Third year.*—Surveying, machinery, art of mining, with practical exercises, dressing of ores, smelting, construction of machines and buildings, mining accounts, &c. A *fourth year* is given to additional practical exercises.

SYSTEM AND INSTITUTIONS OF SPECIAL INSTRUCTION.

SUNDAY SCHOOLS.

Sunday schools, for instructing the young people of a parish in the catechism, and biblical and church history, existed in Prussia and throughout Germany, certainly as early as the sixteenth century, but their recognition as part of the public school system dates from 1763, when Frederick II, in his *General Regulations of Schools* (section 6), ordains that "on Sundays, besides the lesson of the catechism or repetition school given by the minister in the church, the school-master shall give in the school recapitulatory lessons to the unmarried people of the township. They shall there practice reading and writing." In the General regulations for the Catholic schools in Silesia, opened in 1765, "the older children are required to attend the Sunday instruction in Christianity every Sunday afternoon, and after that to participate for two hours in the lessons in reading and writing given in the school, which lessons the teachers shall give under the direction of the pastor, that they may become useful to the young. Those also who have left school, and are not yet twenty years of age, must attend these lessons, and their employers are bound to send them to school at such time, that they may review what they learned before, and acquire necessary knowledge." On this basis of law and habit, by degrees the instruction of the Sunday school was extended and systematized, and became an important portion of the elementary education of the people. In the large villages and cities, drawing, and the first principles of natural history and mechanics, composition in the form of business correspondence, and other branches bearing on the occupations of the pupils, were gradually introduced into this class of schools, which were also held on Monday mornings, in the evening of other days, as well as on the half-holidays of Wednesday and Saturday, and on holidays. They were also connected with the real schools and trade institutes, and got the name of Further Improvement Schools. In Prussia in 1854, there were 220 such schools, with 18,000 pupils; and in Berlin, the trade improvement schools are taught on Sunday by the teachers of the higher schools, and constitute an important agency in the technical instruction of apprentices and workingmen.

REAL SCHOOLS AND BURGHER SCHOOLS.

The real school, which in Prussia now occupies a well-defined place in the system of general education, had originally a direct technical aim, in the plan of Francke in 1698, and of Semler in 1706 and

1738, and of Hecker in 1747.* Francke projected a special pedagogium for children, who wished to become "secretaries, clerks, merchants, administrators of estates, or learn useful arts." Semler calls his school "a mathematical trades school," and in the mathematical, mechanical, and economical real school," opened by him in Berlin in 1738, the instruction given was "in connection with models and real objects,"—*things*, as he designates them.

Rev. J. J. Hecker, in the programme of his "Economical Mathematical School," opened in the schools of Trinity church in 1747, he pledges to all his pupils "a preparation to facilitate their entry into any trade they may choose." Among his classes was one of "architecture and building," another of "manufacture, commerce and trade," and another of "agriculture;" moreover, "drawing shall be practiced." The views of Hecker were encouraged by Frederick II, who named his institution the "Royal Real School." This school became the normal school for teachers of schools on the crown domains; and to it, Felbinger sent a number of pupil-teachers, who became the organizers of improved schools in Austria, in which realistic studies and methods were prominent.

In connection with the real school should be mentioned the Higher Burgher School—the high school of the primary system in all large towns, and which received its earliest and highest development in Leipsic, but which in Königsberg, Dantzic, and other large provincial centres, aimed to fit their pupils for practical careers. Both the real school and the higher burgher schools, although they no longer aim to be technical or professional schools, even for a commercial career, do give a scientific preparation for such higher vocations of the State as do not require an academic career, and they also prepare students for the special and purely technical schools. Without them, the subordinate departments of the public service would not be so well filled, and the special schools of trade, commerce, agriculture, and forestry could not attain their present high development.

SPECIAL TECHNICAL SCHOOLS.

The immense strides made in mechanical, manufacturing, and commercial industry, and the gigantic works in engineering and construction which the public service in peace and in war have required in the last half century, have made necessary the establishment of special schools, in which architects, builders, machinists, engineers, artillerymen, and technical chemists could be taught and trained. Hence

* For an account of the educational labors and views of Francke and Hecker, see Barnard's *Educational Reformers of Germany*.

in every State we find government schools for these purposes, and in all the great centres of population and special industries, these institutions are as varied in their independent organization or associated classes, as are the industries and wants to be supplied. Prussia has felt deeply these necessities, and side by side with the thorough reorganization and extension of her general system of education—the multiplication and improvement of primary, secondary, and superior schools—has grown up a system of special instruction—schools of agriculture, forestry, commerce, navigation, architecture, engineering, construction in wood and metal, and trades of all sorts, which will compare favorably with the best in other countries of Europe. Although not as early in the field as some of the smaller States, and not acting with such entire disregard of the general system as some others, in which the manufacturing and mechanical establishments are relatively more numerous and important, this class of institutions in Prussia are worthy of particular study on account of the superior system of general education on which they all rest.

TRADE SCHOOLS.

The earliest Trade Schools, (*Gewerbe Schulen*, as they are called, the word *gewerbe* being used in its restricted meaning, equivalent to the improvement of material for the purposes of gain,) in Prussia, were organized by Beuth in 1817–18, at Berlin and at Aix la Chapelle, to meet a want of government for better workmen in building operations. The school at the latter place was expressly founded to improve the general and special education of carpenters, mill-wrights, masons, stone-cutters, cabinet-makers, locksmiths, house-painters, braziers, pewterers, and other handicrafts. They were first connected with the Sunday schools.

Those established at that time were called *Handwerker fortbildung schulen*, and belonged to the class of “improvement schools,” being planned to add to the knowledge of the local handicraftsmen and their apprentices. Schools for special trades or industries did not rise until a few years later. The whole system underwent a reorganization in 1850, when all the establishments of this character were assigned to the Department of the Minister of Commerce.

There are now not far from 500 giving instruction in almost all branches of industrial activity, and all being exclusively devoted to technological studies. The real and burgher schools, (of which there were in 1868, over 190,) through which those pupils who are intending to enter the higher technical institutions generally pass, and

which, moreover, give some instruction in commerce, are not included in this list.

The technical schools may be divided into those imparting general industrial instruction, and those devoted to special branches.

1.—The class giving general instruction embraces the following :

(1.) *Establishments corresponding to Improvement Schools*.—There are a number of varieties of these: the evening, Sunday, and finishing schools; societies for apprentices to which improvement schools are added; journeymen's schools, and workmen's societies, which also make provision for technical instruction.

This class does not carry technical studies very far, except in drawing, the general aim being to extend the knowledge gained in the elementary schools, and nothing more than this is required at admission.

(2.) *Foremen's Schools*.—These aim to train foremen for various mechanical occupations. The institution at Königsberg has 7 teachers and 69 scholars, (1867); the fees are about six thalers per half year. The requirements for admission are the studies of the primary schools.

(3.) *The Provincial and Municipal Trade Schools*.—These two classes of establishments form the next grade in technical instruction, and prepare pupils to enter the central academy at Berlin. They receive those who have had a partial course in the gymnasiums, real schools, or burgher schools. There are in Prussia about 30 of these, averaging four or five teachers, with 2,600 scholars in all. The fees vary exceedingly. There is a journeyman's improvement school connected with each.

(4.) *Central Trade Academies*.—The highest grade of education for mechanics, chemists, and ship-builders is obtained at these establishments, which approaches the character of a polytechnic university. There are now two—the Academy, (*Gewerbe Academie*, formerly called *Gewerbe Institut*,) is at Berlin; another, recently organized (1867), at Aix la Chapelle. The Berlin Academy receives scholars who have completed the course at the provincial trade schools, real schools, or the gymnasiums. Of this institution, J. Scott Russell, in his elaborate treatise on systematic technical education for the English people, thus speaks :

Here in Berlin, I found a large and handsome building, close by the king's palace, in one of the best parts of the town, and this was called, at that time, a "*Gewerbe Schule*," or royal school for trade teaching. This very humble designation did not lead me to expect the high scientific education and training which was there provided for the young professional men of Berlin. The truth is, that in Berlin, everything but the three learned professions, law, medicine, and theology, were still called trades, and not yet admitted to the rank of professions, just as, in our country, the time was when Brindley, the canal engineer, was still

reckoned a sort of superior ditch-digger, and George Stephenson a sort of superior engine-driver. The tradition had still enough influence in Berlin to call a technical university for the modern professions a "trade school."

Since that time, the dignity of the "*Gewerbe Schule*" has been recognized. Its buildings, its endowments, the rank and salaries of its professors, the number and preliminary qualifications of its pupils, have all been raised. It has now the recognized rank of a technical university, with professors of equal dignity, and degrees of equal weight.

Berlin being the first technical university with which I became acquainted, and also one of the earliest, I should naturally quote, as an example of a "technical university abroad," this *Gewerbe Institut*, or *Gewerbe Academie*, of Berlin. I recommend those of my countrymen who care for such things, to visit that institution, which is admirably conducted, systematically organized, and a great boon to the professional men of Prussia. They will find that it in every way lends itself, by means of evening as well as morning lectures, by trade associations connected with it, by free libraries and museums, to the education not merely of the higher professional men, but also of the working men who have leisure and disposition to desire high trade knowledge.

In very many respects, therefore, I consider Berlin a model technical university. I do not quote it, however, as my type of what such a university might be, because it labors under some traditional and local disadvantages, which somewhat narrow its sphere, derange its symmetry, and cramp its development. It is not symmetrical in the highest degree, because in Berlin there had already existed, before it attained its present growth, surrounding institutions, which had monopolized a portion of its ground.

Kindred academies, institutions, or universities, had already provided education and training for some of the arts and professions which a more isolated university would have systematically included in its curriculum; and which it was, therefore, unwise, unnecessary, or inconvenient to include in the new organization. Precisely, therefore, because the Berlin *Gewerbe Academie* fits its place, and answers its special purpose, it is less fitted to serve as a type of a symmetrical institution than some others of more recent growth, more remote from the overshadowing influence of rival and more ancient institutions.

II.—Institutions giving instruction in special professions, include :

1. BUILDING PROFESSIONS: (1.) *Building Schools*.—There are many of these open to all building artisans who have received an elementary education, and imparting theoretical and practical instruction in their special departments. They rank with "improvement schools." The fees are about six thalers per half-year.

(2.) *Building Academy*.—This academy at Berlin educates architects and engineers of the highest grade.

2. MINING PURSUITS: (1.) *Mining Schools*.—These correspond in grade to the provincial industrial schools, and educate foremen and master workmen in the mines.

(2.) *Mining Academy* at Berlin, which gives the highest education in mining and in metal working, and prepares mining engineers.

3. WEAVING AND DYEING: (1.) *Weaver's Schools*.—The weaving schools belong to the grade of improvement schools. There are 3 of them in Prussia, with 12 teachers and 96 pupils in all. The fees are 20 thalers per half-year.

(2.) *Superior Weaving Schools*.—There are 5 superior weaving schools, with 12 teachers. They require the same qualifications as

the provincial industrial schools. The fees are about 20 thalers per half-year.

(3.) *Industrial Drawing School*.—The industrial drawing school at Berlin gives æsthetic and practical instruction to designers for various tissues and to weavers. It is a distinct institution.

4. COMMERCE.—Commercial instruction is given to some extent in schools of a general literary aim. Of the special institutions of this class, the school of commerce for young women, at Berlin, deserves attention.

5. NAVIGATION.—There are six schools intended to train young men to be pilots and captains of merchant vessels. These are at Memel, Dantzig, Pillau, Grabow, Stettin, and Stralsund.

6. AGRICULTURE.—There are thirty-two institutions, in which both the theory and practice of agriculture, and kindred occupations, are taught, and several of them, in the range and thoroughness of instruction, are not surpassed in any country of the world. The work of the school is carried home to neighborhoods by itinerant teachers paid by the government, who go from village to village, and the results of improved methods are seen and disseminated by the action of upwards of five hundred agricultural associations, which by conferences, exhibitions, and prizes, keep up a lively interest in agricultural improvement.

7. The new laboratories, as well for original research as for higher instruction, may be regarded not only as “arsenals” of science, but as mighty engines of industrial development.

The teachers of the lower and middle grades of technical schools become prepared by giving instruction in a gymnasium or real school, and afterwards studying in the Berlin trade academy for three years. Teachers from other schools are also employed, and, in the lowest grades of technical schools, instruction is often given gratis by private manufacturers.

To all of these institutions are attached libraries, and to many belong collections of models, and other aids of instruction; especially full is the collections of the central academy at Berlin.

The result of the system has been to convert workmen into refined and thinking men, and to develop rapidly the industrial resources of the country, as was shown in the late international exhibition at Paris.

INDEX TO VOLUME XXI

OF

BARNARD'S AMERICAN JOURNAL OF EDUCATION.

[NATIONAL SERIES, VOLUME V.]

-
- ACADEMIES of Art**, 79, 119, 223, 331, 497, 637.
Architecture, 505.
Adults, schools for, 150, 164, 185, 401, 485.
Æsthetics, study of, 675, 681.
Agricultural Education—System and Statistics.
 Austria, 34, 75.
 Baden, 95.
 Bavaria, 98, 127.
 Belgium, 629.
 Brunswick, 143.
 Denmark, 701.
 Finland, 732.
 France, 545, 557.
 Hanover, 166.
 Holland, 696.
 Italy, 791.
 Nassau, 175.
 Norway, 706.
 Portugal, 800.
 Prussia, 724, 730.
 Russia, 728, 730.
 Saxony, 307.
 Saxon Principalities, 343, 346.
 Spain, 798.
 Sweden, 710.
 Switzerland, 736.
 Wurtemberg, 372, 377.
Agricultural Schools and Classes.
 Annaberg, 206.
 Brunswick, 144.
 Chemnitz, 301.
 Copenhagen, 701.
 Eldina, 216.
 Geisberg, 175.
 Gembloux, 632.
 Gorigonetz, 730.
 Grand-Jouan, 572.
 Grignon, 564, 579.
 Groningen, 695.
 Hohenheim, 372.
 Latschino, 731.
 Lesnoy, 731.
 Lichtenhof, 132.
 Mettray, 555.
 Moeglin, 206.
 Petroskae, 732.
 Plagwitz, 312.
 Popplesdorf, 207.
 Riga, 725.
 Roville, 558.
 Schleissheim, 133.
 St. Petersburg, 730.
 Tharand, 309.
 Weihestephan, 127.
Agriculture in Primary Schools, 35, 575.
Agriculture in Normal Schools, 575, 778.
Agriculture in Polytechnic Schools, 87, 143, 299, 757.
Alais, School of Mines, 426.
Alfort Veterinary School, 550.
Angelo, Michael, 671.
Angers, arts—schools, 454.
Annaberg, School of Agriculture, 206.
Antwerp, 613, 620, 622, 655.
 School of Art, 637, 652, 655.
 School of Commerce, 627.
 School of Navigation, 627.
Appliances for Drawing, &c., 25.
 Belgium, 647.
 France, 488, 508, 601.
 Wurtemberg, 648.
 Zurich, 758.
Apprentice Schools.
 Austria, 39.
 Baden, 91.
 Bavaria, 105.
 Belgium, 610.
 Hanover, 164.
 Nassau, 173.
Aquarium in Berlin, 285.
Archæology and Art, 668.
Architecture, Naval, 594, 716.
 " **Rural**, 573.
Architecture, schools and courses of, 68, 496
 Berlin, 20.
 Brunswick, 139.
 Carlsruhe, 85, 90.
 Chemnitz, 303.
 Copenhagen, 704.
 Hamburg, 153.
 Hanover, 167.
 Milan, 791.
 Munich, 108.
 Paris, 505.
 Prague, 48.
 Riga, 725.
 Stuttgart, 358, 362.
 Vienna, 58.
 Zurich, 749.
Art, State Appropriations.
 Bavaria, 119.
 Belgium, 653.
 France, 498.
Art, defined, 667, 675.
Art Institutions.
 Bavaria, 119.
 Belgium, 637.
 France, 497.
 Prussia, 223.
 Saxony, 331.
 Wurtemberg, 385.
Arnold, M., cited, 444.
Art and Labor, 678, 507.
Artists and Artisans, 667.
Asschaffenberg, Forestry School, 135.
Astronomy, Nautical, 783.
Augsburg, Polytechnic School, 117.
Austria, area, population, schools, 33.
 System of special schools, 35.
 Contents, 11.
Avignon, 438.

Baden, population, schools, area, 81.
 Technical Schools, 83.
 Contents, 12.
Baden-Baden, Trade School, 91.

- Barmen, Trade School, 286.
 Bavaria, area, population, schools, 97.
 Technical Schools, 101.
 Contents, 12.
 Beauty, sense of, to be trained, 229.
 Bee-Culture, 562.
 Belgium, area, population, schools, 607.
 Special and Technical School, 609.
 Contents, 18.
 Berranger and St. Nicholas School, 484.
 Bergen, Technical School, 710.
 Berlin, Aquarium, 285.
 Architectural School, 201.
 Building School, 202.
 Commercial Schools, 219.
 Drawing and the Fine Arts, 676.
 Industrial Drawing School, 200.
 Mining Academy, 221.
 Music, 338.
 Real School, 190.
 Trade Institute, 182, 197.
 University, Laboratory, 381, 177.
 Veterinary School, 218.
 Workingmens' Union, 195.
 Berchtesgaden, Wood-carving School 116.
 Besangon Watchmaking School, 433, 491.
 Blanqui, Prof. of Commerce, 538.
 Boatswain, School of, 581.
 Bochum, School for Mining, 221.
 Bohemia, 41.
 Bohemia, Industrial teaching, 35.
 Bologna, Academy of, 673.
 Book-keeping,
 Borda, School Ship, 590.
 Bordeaux, special schools, 431.
 Bouillon, Forestry School, 635.
 Bratsch, 126.
 Bremen, statistics and schools, 161.
 Brest, Naval School, 577.
 Bridges and Roads. *See* Civil Engineering.
 Brunswick, area, population, schools, 137.
 Special and Technical Schools, 137.
 Contents, 13.
 Brunswick City, Polytechnic School, 138.
 Brussels, Academy of Fine Arts, 638, 640.
 Conservatory of Music, 653, 683.
 Museum of Industry, 609.
 University, 608.
 Building Schools and Classes, 68.
 Berlin, 200.
 Brunswick, 139.
 Carlsruhe, 85.
 Chemnitz, 303.
 Dresden, 299.
 Ghent, 621.
 Hamburg, 150.
 Hanover, 197.
 Holzminden, 147.
 Milan, 791.
 Munich, 108.
 Nienberg, 164.
 Stuttgart, 369.
 Zurich, 761.
 Botanic Gardens, 308, 382, 569.
 Bruenn, Polytechnic School, 43.
 Bruges, School of Industry, 613.
 Burgher Schools, 36, 693.

 Cadet Schools, 34.
 Calculus, Differential, 84, 415, 419.
 Caligraphy, 511.
 Carracci, School of Painting, 673.
 Carlserona, School of Naval Architecture, 716.
 Carlsruhe, Polytechnic School, 83.
 Cambrai, Trade School, 436.
 Carving in wood, 430.
 Carpenters, 153, 303.
 Castres, Trades School, 438.
 Casts, drawing from, 158.
 Central School of Arts, Paris, 463.
 Chalmers, Industrial School, 716.
 Chalons, School of Art, 453.
 Government cabinet work, 453.
 Charleroi, School of Industry, 613.
 Chaptal College, 438.
 Chemistry and the arts, 428, 758.
 Chemistry and chemical technology, 70, 465.
 Berlin, 195, 281.
 Brunswick, 142.
 Carlsruhe, 88.
 Dresden, 297.
 Elberfeld, 203.
 Hanover, 167.
 Lausanne, 741.
 Paris, 415, 420, 465.
 Prague, 47.
 Riga, 725.
 St. Petersburg, 722.
 Vienna, 59.
 Zurich, 755, 761.
 Chemnitz, Technical School, 299.
 Architectural School, 303.
 Real School, 290.
 Weaving School, 305.
 Christiania, University, 706.
 School of Arts, 707.
 Chevalier, on Schools of Design, 507.
 Christian Brothers, Industrial School, 482.
 Christiania, School of Arts, 707.
 University, 706.
 Christie, H. Tech. Education in Norway, 710.
 Civil Service, schools for, 729.
 Civil Engineering Schools of
 Brunswick, 145.
 Carlsruhe, 84.
 Dresden, 296.
 Ghent, 621.
 Milan, 780.
 Munich, 109.
 Paris, 422, 469.
 Prague, 48.
 Riga, 726.
 Stuttgart, 367.
 Vienna, 58.
 Zurich, 749.
 Clock-making, 92, 491.
 Coimbra, University, 796.
 Collegium Carolinum, 137.
 Coleman, European Agriculture, 550.
 Commerce, schools and courses of, 69, 595.
 Austria, 35.
 Antwerp, 623.
 Berlin, 190, 219.
 Carlsruhe, 89.
 Dantzic, 187.
 Dresden, 291, 296.
 Frankfort, 159.
 Leipsic, 293.
 Lyons, 437.
 Moscow, 728.
 Munich, 110, 113.
 Paris, 552, 539.
 Passau, 115.
 Prague and Pesth, 78.
 Vienna, 60, 77.
 Zurich, 758.
 Compiègne, School of Arts, 452.
 Conceptive faculty, training of, 229.
 Conservatory of Arts and Trades, Paris, 439.
 Conservatory of Music. *See* Music.
 Copies in Drawing, 158, 660.
 Copenhagen, Agricultural School, 701
 Technical Institute, 703.
 Cotta, H. and Agricultural Education, 308.
 Courtrai, School of Industry, 617.
 Cracow, Polytechnic School, 38.
 Crefeld, 482.
 Creuzot, Industrial Schools, 438.
 Skilled workmen at, 494.
 Cureghem, Veterinary School, 634.

- Dantzic, Provisional Trade School, 187.
 Dardenne, Prof. on Drawing, 659.
 David, on Art Teaching, 674, 675.
 Davidson, E. K. cited, 25.
 Demetz, Agricultural Reform School, 553.
 Delft, Polytechnic School, 697.
 Democracy, educated, 398.
 Denmark, area, population, schools, 699.
 Special and Technical Schools, 700.
 Contents, 19.
 Dijon, School of Art, 504.
 Diplomatic Service, 729.
 Discipline of Technical Schools.
 Lyons, La Martinière, 484.
 Paris Polytechnic, 417.
 St. Nicholas Institute, 479.
 European Polytechnics, 474.
 Döhlemann, Lectures of, 130.
 Dombasle, Agricultural School, 558.
 Doubs, School of Horology, 430.
 Drawing, defined, 226, 520.
 Drawing, value of, as a study, 25, 228.
 Drawing copies and models, how obtained.
 Belgium, 647.
 France, 508, 605.
 Wurtemberg, 394.
 Drawing, special schools for,
 Bavaria, 121.
 Berlin, Real School, 192.
 Copenhagen Technical Institute, 703.
 Hamburg Trade School, 150.
 Lyons, La Martinière, 487.
 Munich, 119.
 Nuremberg, 122.
 Paris Institute of Christian Brothers, 605.
 Vienna, 56, 60.
 Drawing, Government Programmes, 122.
 French Minister of Public Instruction, 511.
 Hentschel, 239, 244.
 Prussia, 223.
 Union Central of Fine Arts, Paris, 603.
 Wurtemberg Trade Improving Comm'rs, 385.
 Drawing, Individual Systems and Methods.
 Bräuer, 238.
 Dubuis, 226, 252.
 Heimerdinger, 150.
 Hendricks, 661.
 Hentschel, 667.
 Leonardo Da Vinci, 521.
 Ravaisson, 513.
 Schmitz, 192, 226, 239.
 Taege, 665.
 Drawings, kinds of,
 Architectural, 572.
 Casts and Models, 387, 459, 512, 526.
 Copying, 233, 260, 440.
 Elementary, 244, 659.
 Free-hand, 387, 391, 510, 663.
 Geometrical, 233, 239, 389, 510, 644, 664.
 Human Figure, 522, 663.
 Industrial, 385, 459, 603, 605.
 Inventive, 234, 241, 525.
 Linear, 391, 510, 649.
 Naval, 584, 586.
 Outline, 532, 663.
 Perspective, 253, 241, 663.
 Solid and Relief objects, 223, 663.
 Drawing in Common Schools, 123, 226.
 Belgium, 659.
 France, 604.
 Hamburg, 150.
 Prussia, 223, 226.
 Wurtemberg, 385.
 Drawing in Tech. Schools, 121, 213, 391, 441.
 Dresden schools.
 Blind, 331.
 Commercial, 291.
 Deaf Mutes, 331.
 Fine Arts, 331.
 Gymnastic, 321.
 Industrial, 329.
 Military, 323.
 Polytechnic, 294.
 Real School, 289.
 Sunday Schools, 327.
 Tailors, or Modes, 330.
 Veterinary, 325.
 Dubuis, System of Drawing, 515.
 Eberswald, Forestry School, 217.
 Eichberg, J. music in European schools, 124.
 Elberfeld, Weaving School, 203.
 Eldena, Academy of Agriculture, 216.
 Engineering, schools and classes for,
 Civil. *See* Civil.
 Mechanical,
 Naval, 585.
 Engraved copies in Drawing, 660.
 Escher Alfred, 744.
 Eskilstuna, Evening School, 713.
 Evening Schools, Sunday Schools, &c.
 Austria, 35, 39.
 Baden, 91.
 Bavaria, 105, 111.
 Frankfort, 158.
 Hamburg, 152.
 Hanover, 164.
 Prussia, 185.
 Saxony, 329.
 Sweden, 712.
 Wurtemberg, 391.
 Excursions, to workshops, 668, 760.
 Fachschulen, 61.
 Factory schools, 39, 338, 709.
 Fahlun, Mining School, 714.
 Farm School, 561.
 Fashion, or Mode School, 330.
 Fees, in Polytechnic Schools, 73.
 Fellenberg, Industrial Schools, 769.
 Females, special instruction for.
 Austria, 79.
 Bavaria, 114, 136.
 France, 508, 606.
 Prussia, 219.
 Saxony, 293.
 Filing, practice in, 117.
 Filipstad, Mining School, 714.
 Fine Arts, academies and schools of, 23.
 Austria, 34, 79.
 Bavaria, 98.
 Belgium, 119.
 France, 497.
 Prussia, 223.
 Russia, 733.
 Saxony, 331.
 Finland, 717, 732.
 Fitting-shop, 460.
 Flint, C. L. 175, 215, 339.
 Florence, Musical Institute, 795.
 Forestry, school of,
 Ascheffenburg, 103.
 Bouillon, 635.
 Brunswick, 143.
 Carlsruhe, 87.
 Copenhagen, 702.
 Grignon, 569.
 Mariabrunn, 76.
 Nancy, 574.
 Petroskae, 732.
 Popplesdorf, 211.
 Tharand, 307.
 Zurich, 752.
 Foster, Le Neve, 683.
 Fourcroy, on schools for farmers, 557.
 Foundry practice, 460.
 France, area, population, schools, 401.
 System of Special Instruction, 402.
 Appropriations for Art, 498.
 Contents, 17.

- Frankfort, Statistics, 157.
 Special schools, 158.
 Free-hand drawing, 224.
 Frederick II, and Sunday Schools, 179.
 Frieberg, Mining Academy, 314.
 School for practical miners, 318.
 Fringe-making school, 330.
 Frohlich, 126.
 Further instruction schools, 25, 103, 179, 327.
 Furtwangen, watch and clock making school, 92.
- Gabelsberger's Stenography, 320.
 Gardening, schools of, 373, 569, 575.
 Geisberg, Agricultural Institute, 175.
 Gelbert's Perspectometre, 660.
 Geneva, special school at, 742.
 Industrial or trade school, 742.
 School of watch-making, 742.
 Genoa, Navigation School, 793.
 Geometrical Drawing, 241, 388, 459.
 Geometry, descriptive, 490.
 Gewerbschulen, 91, 103, 197, 286.
 Gewerbe-Verein, of Nassau, 173.
 Ghent, Industrial School, 614.
 Academy of Art, 639.
 School for engineers, 621.
 School for arts and manufactures, 622.
 Girls, technical education of, 136, 219, 293, 606.
 Gothenburg, Industrial School, 713.
 Grand-Jouan, School of Agriculture, 572.
 Gratz, Agricultural School, 75.
 Polytechnic School, 38, 46.
 Grecian Art, 516, 528, 674.
 Grignon, Agricultural School, 564.
 Groningen, School of Agriculture, 695.
 Gymnastics, schools for, 34, 96, 321.
- Hainault, Miners' School, 613, 622.
 Hasselt Trade School, 613.
 Hamburg, statistics, 149.
 Technical Schools, 150.
 Patriotic Society, 151.
 Sunday and Evening, 152.
 School of Architecture, 153.
 Industrial Museum, 153.
 Hand, trained by drawing, 228.
 Hanover, area, population, schools, 165.
 Special and Technical Schools, 165.
 Contents, 13.
 Hardening against exposure, 779.
 Hecker, 180.
 Hecker, Royal Real School, 180.
 Heidelberg, University of, 82.
 Hentschel, E. on drawing, 267.
 Instruction in Music, 249.
 Hendricks' system of drawing, 663.
 Herdtle, catalogue of models, 648.
 Hermitage, Gallery and Art Treasury, 733.
 Hesse-Cassel, area, population, schools, 169.
 Special and professional schools, 169.
 Hesse-Darmstadt, area, pop., schools, 170.
 Special and professional schools, 170.
 Histology, 599.
 Hochburg, School of Agriculture, 95.
 Hoffmann, Plan of Laboratory, 277.
 Hofwyl, industrial element in, 769.
 Hohenheim, Institute of Agriculture, 377.
 Holiday and supplementary schools.
 Austria, 39.
 Baden, 91.
 Bavaria, 105.
 Frankfort, 159.
 Prussia, 179, 185.
 Saxony, 329.
 Holland, area, population, schools, 691.
 Special and Technical Schools, 693, 694.
 Contents, 19.
 Holzminden, school for builders, 147.
 Horten, Technical School, 708.
 Horticulture, schools of,
- Austria, 34.
 Belgium, 633.
 France, 437.
 Prussia, 217.
 Russia, 731.
 Wurtemberg, 373.
 Hotel de Cluny, Ornamental Art, 602.
 Hubertsburg, School for Blind, 331.
 Human form, in drawing, 527.
 Hungary, statistics of, 33.
 Special and other schools, 34.
 Hüy, Industrial School, 613, 618.
 Hydraulic Engineering, 739, 697.
 Hydrography, school of, 587.
- Imagination, trained by drawing, 234.
 Industrial Drawing and Design,
 Brussels Conference, 677.
 Paris Conference, 603.
 Norway, 707.
 Programme of France, 459, 487, 507, 603.
 Regulations of Prussia, 224.
 System of Wurtemberg, 385.
 Industrial element in teaching, 778.
 " Expositions, 385, 507, 604.
 " Schools, *See* Austria and other states.
 " Museums, 155, 394, 601, 609, 655, 733.
 Inventive Drawing, 234.
 Inflexible, school frigate, 580.
 Italy, area, population, schools, 787.
 Technical Instruction, 789.
 Contents, 20.
- Jaroslavl Lyceum for Civil Service, 729.
 Jena, University of, 346.
 Juvenile Reform Schools and Industry, 553, 771.
- Key, Joseph, cited, 782.
 Kindermann, Industrial Schools, 35.
 Knoblock, on Agricultural Chemistry, 129.
 Koenigsberg, Trade School, 185.
 Koristka, on Polytechnic Schools, 61, 117, 168.
 Kruitlingen, Normal School of, 777.
 Krupp, steel works of, 222.
 Kuratli, and Reform School, 785.
- Laboratories for Technical Chemistry.
 Berlin, 281.
 Bonn, 279.
 Carlsruhe, 142.
 Paris, 597, 599.
 Zurich, 758.
 Lace making Schools, 330, 433.
 Latschino, School-farm, 731.
 Lausanne Technical Institute, 739.
 Lavelye, Prussian Agricultural School, 218.
 Le Blanc, and Geometrical Drawing, 441.
 Leipzig Commercial School for women, 293.
 Academy of Arts, 335.
 Commercial School, 291, 293.
 Conservatory of Music, 336, 338.
 University, 287.
 Legislation, ordinary, taught in school, 541.
 Lemberg, Polytechnic School, 38.
 Lesnoy Agricultural School, 731.
 Library, 758.
 Liege, Industrial School, 613.
 Engineering and Mining School, 619.
 Mechanics' School, 620.
 University, 608.
 Lille, School of Mines and Trades, 435.
 Designs, 435.
 Lissina, Forest School, 728.
 Lyons, La Martiniere, 483.
 Central School of Arts, 490.
 School of Commerce, 437.
 School of Design, 496.
 School for Silk weaving, 437.
 Lyceums in France, Drawing in, 510.

- Maastricht, Technical School, 694.
 Machine Building and Mechanics Schools, 65.
 Augsburg, 117.
 Berlin, 198.
 Brunswick, 138.
 Carlsruhe, 88.
 Chemnitz, 299, 302.
 Dresden, 296.
 Hanover, 167.
 Liege, 620.
 Munich, 109.
 Paris, 415, 471.
 Prague, 48.
 Riga, 726.
 Stockholm, 715.
 St. Petersburg, 723.
 Stuttgart, 367.
 Vienna, 59.
 Zurich, 755.
 Malgras, 575.
 Manual Labor, and Mechanical Dexterity, 66.
 Marburg, University, 169.
 Mariabrunn, Forest Academy, 76.
 Maria Theresa, and Industrial Schools, 37, 638.
 Marine artillery, 596.
 Martin, Claude, 482.
 Massmann, Sunday Schools, 703.
 Masons, Schools for, 299, 303, 362, 577.
 Maykirch, Industrial Colony, 777.
 Mecklenberg, area, population, schools, 171.
 Special and Professional Schools, 171.
 Mercantile Marine Schools.
 Austria, 34.
 Belgium, 608, 627.
 Denmark, 701.
 France, 576, 587.
 Hamburg, 156.
 Holland, 698.
 Mecklenberg, 171.
 Mendelssohn, 238.
 Oldenburg, 176.
 Portugal, 790.
 Prussia, 220.
 Russia, 719.
 Saxony, 329.
 Sweden, 711.
 Mettray Agricultural Reform School, 553.
 Milan, Technical Institute, 779.
 Military Schools *See statistics of States.*
 Millwrights, 302.
 Mining, and Practical Miners.
 Alais, 426.
 Berlin, 221.
 Bochum, 221.
 Brunswick, 141.
 Fahlen, 714.
 Filipstad, 714.
 Freiberg, 314.
 Hainault, 622.
 Kongsberg, 709.
 Lausanne, 741.
 Liege, 619.
 Paris, 424.
 Schemnitz, 80.
 St. Etienne, 425.
 St. Petersburg, 727.
 Model Farm, 563.
 Modeling, 298, 454, 760.
 Möglin, Institute of Agriculture, 206.
 Molard, and Industrial drawing, 441.
 Museum of Industrial Art, 669.
 Brussels, 609, 647, 682.
 Berlin, 199.
 England, 668.
 Hamburg, 155.
 Moscow, 734.
 Munich, 119.
 Paris, 438, 601.
 St. Petersburg, 733.
 Stuttgart, 356.
 Vienna, 668.
 Models and Copies, how obtained, 25.
 Moscow, Special Schools, 727, 729.
 Museum of Art, 734.
 Mulhouse, special schools, 437.
 Cotton-spinning School, 493.
 Drawing and Designs, 436.
 Industrial School for Girls, 436.
 Weaving School, 493.
 Mundeberg, Weaving School, 116.
 Munich, Special Instruction in Art, 119.
 Commercial School for Girls, 136.
 Conservatory of Music, 126.
 Drawing School for Girls, 136.
 Polytechnic School, 118.
 Sunday and Holiday Schools, 112.
 Music, Special Instruction in, 249.
 Austria, 34, 79.
 Bavaria, 124.
 Belgium, 682.
 France, 531.
 Hamburg, 156.
 Italy, 785.
 Prussia, 249, 338.
 Saxony, 336.
 Nancy, Forestry School, 574.
 Naples, College of Music, 786.
 Napoleon, and Trade Schools, 451.
 Nature, Drawing from, 242.
 Naval Architecture, and Engineers' Schools of,
 France, 594.
 Prussia, 199.
 Russia, 719.
 Sweden, 716.
 Naval Apprentice Schools, 581.
 Navigation, Schools of,
 Austria, 34, 78.
 Belgium, 627.
 France, 577.
 Hamburg, 156.
 Norway, 709.
 Prussia, 219.
 Saxony, 329.
 Sweden, 716.
 Nassau, area, population, schools, 172.
 Special and Technical Schools, 172.
 Contents, 14.
 Neuchatel, Industrial School for Girls, 742.
 Neviere, 572.
 Newstadt Eberswald, Forestry School, 217.
 Needlework in Public Schools, 35.
 Niemeyer, on Sunday Schools, 111.
 Nieuport, Professor of Navigation, 627.
 Nienberg, Trade School, 164.
 Nismes, School for Weaving, 430.
 Njeschin, Lyceum for the Civil Service, 729.
 Norkoping, Technical School, 713.
 Norway, area, population, schools, 705.
 Special and Technical Schools, 706.
 Contents, 19.
 Nuremburg Schools, Special Schools, 112.
 Academy of Art, 101.
 District Trade School, 114.
 Industrial Drawing School, 141.
 School of Arts, 121.
 Sunday School, 112.
 Ofen, Polytechnic Schools, 38.
 Oldenburg, area, population, schools, 176.
 Special and Professional Schools, 176.
 Oporto, Naval School, 627.
 Oppel, and Mining Schools, 314.
 Oriental Languages, Schools of, 34, 401, 729.
 Orphans of sailors, 578.
 Ostend, Navigation School, 627.
 Paris, Special Schools and Classes of,
 Architecture, 505.
 Central School of Arts and Manufactures, 463.

- Conservatory of Arts and Trades, 445.
- Drawing and the Fine Arts, 497, 509.
- Higher Studies, 597.
- Laboratories for research, 597.
- Mines and Mining, 424.
- Museum of Art, 601.
- Music, 529.
- Polytechnic School, 403.
- St. Nicholas Institute, 475.
- Union Centrale of Arts and Industry, 603.
- Patriotism and Public Schools, 381.
- Patriotism, inspired by Public Schools, 399.
- Passau, Higher Trade School, 115.
- Pattern-shops, 459.
- Perspective, 520.
- Perspectometre, 660.
- Petroskae, Agricultural School, 732.
- Pesth, Academy of Commerce, 78.
- Pestalozzi, and Industrial Schools, 765.
- Perth, Academy of Commerce, 78.
- Philosophy, 674.
- Pharmacy and Chemistry, 142.
- Piarist Schools, 37.
- Poland, School Statistics, 717.
- Political Economy, 756.
- Polytechnic Schools in different countries, historical data, 37, 61, 294, 403.
 - Berlin, 192, 200, 221.
 - Brunswick, 83.
 - Carlsruhe, 83.
 - Chemnitz, 299.
 - Christiania, 710.
 - Copenhagen, 703.
 - Dresden, 294.
 - Delft, 695.
 - Ghent, 619.
 - Hanover, 165.
 - Liege, 621.
 - Lausanne, 737.
 - Munich, 118.
 - Nuremburg, 403.
 - Paris, 463.
 - Prague, 47.
 - Riga, 723.
 - Stockholm, 715.
 - St. Petersburg, 721.
 - Stuttgart, 364.
 - Zurich, 743.
- Poppelsdorf, Academy of Agriculture, 207.
- Porcelain Painting, 438.
- Portugal, area, population, schools, 789.
 - Special Schools, 790.
- Post-office, Instruction for, 89.
- Potsdam, School of Horticulture, 217.
- Prague, Polytechnic School, 47.
 - Commercial School, 78.
 - Conservatory of Music, 79.
 - Manufacturers' and Tradesmen's School, 41.
- Preparatory Section of Polytechnic School, 63.
 - Berlin, 197.
 - Carlsruhe, 84.
 - Dresden, 295.
 - Hanover, 166.
 - Munich, 118.
 - Paris Central School of Arts, 473.
 - Riga, 724.
 - Stuttgart, 364.
 - Vienna, 53.
- Prussia, area, population, schools, 177.
 - Special and Technical Schools, 178.
 - Contents, 14.
- Prytaneum, French, 451.
- Raffaelle, indebtedness of the Arts to, 518.
- Ravaisson, on Drawing, 513.
- Real Schools, 34, 43.
 - Austria, 36.
 - Bavaria, 106.
 - Prussia, 179, 190.
 - Saxony, 289.
- Real Gymnasium, 43, 104.
- Reform Schools and Agriculture, 552, 785.
- Regional Schools of Agriculture, 547, 564.
- Repetorial Method, 407, 466.
- Repetition or Review Schools, 327, 391.
- Rheims, Industrial School, 435.
- Ribbon, designing and wearing, 493.
- Riga, Polytechnic School, 723.
- Roads and Bridges, Schools and Classes of, 69.
 - Brunswick, 139.
 - Carlsruhe, 85.
 - Dresden, 296.
 - Ghent, 621.
 - Hanover, 167.
 - Lausanne, 789.
 - Paris, 422.
 - Prague, 48.
 - Riga, 726.
 - Stuttgart, 369.
 - Vienna, 58.
 - Zurich, 754.
- Rieffel, and Agricultural School, 560.
- Rochefoucauld, founder of Art School, 453.
- Rome, French School of Art, 499.
- Rosier, Plan of Agricultural School, 545.
- Rouen, Art School, 496.
- Rouher, Commission on Technical Schools, 507.
- Roville, Model Farm, 558.
- Rural Economy, 144.
- Rural Architecture, 573.
- Russia, area, population, schools, 717.
 - Special and Technical Schools, 718.
 - Contents, 20.
- Sailors, Schools for, 578.
- Salt Mines and Mining, 141.
- Samuelson, on Technical Schools, 222, 286, 392.
- Sandart, Nuremberg Academy of Art, 101.
- Sanford, Henry S., 623.
- Saxe-Altenberg, area, population, schools, 343.
 - Special and Professional Schools, 343.
- Saxe-Coburg, area, population, schools, 344.
 - Special and Professional Schools, 344.
- Saxe-Meiningen, area, population, Schools, 345.
 - Special and Professional Schools, 345.
- Saxe-Weimer, area, population, schools, 346.
 - Special and Professional Schools, 346.
- Saxony, area, population, schools, 387.
 - Special and Professional Schools, 388.
 - Contents, 15.
- Scharrer, and Technical Schools, 101.
- Schemnitz, Mining School, 80.
- Schleissheim, Agricultural School, 133.
- School-farm, 562.
- School-garden, 576.
- Schwerz, at Hohenheim, 378.
- Schneider's Iron Works, 387.
- Schroder, models for teaching Science, 28.
- Science and Labor, 679.
- Screw, uses of, 117.
- Sevres, Porcelain Works and Museum, 602.
- Sewing Schools.
- Shading, may be abused, 235.
- Shepherds', Schools of, 574.
- Ship-building, 199, 582.
- Shuttleworth, Sir J. K., cited, 780.
- Silk-culture, 34.
- Singing, instruction in, 249.
- Soignies, School for stone-cutters, 617.
- South Kensington Museum, 668.
- Spain, area, population, schools, 787.
 - Special Schools, 788.
- Spinning Schools, 330, 445, 493.
- Stenography, School of, 319.
- Stettin, Navigation School, 220.
- Stockholm, Special Schools, 713, 716.
 - Polytechnic, 715.
 - Industrial School, 713.
- Stokers, 585.
- Stone-cutting Schools, 617.

- Straw-plaiting Schools, 95.
 Stuttgart, Art-workmens' School, 374.
 Building Trades, 362.
 Museum of Industry, 394.
 Technical University, 364.
 St. Petersburg, Polytechnic School, 721.
 Agronomic Institute, 730.
 Construction School of Surveying, 728.
 Forest Academy, 728.
 Institution for Mining Engineers, 727.
 Public Museums, 733.
 School of Oriental Languages, 729.
 Sweden, area, population, schools, 711.
 Special and Technical Schools, 712.
 Switzerland, area, population, schools, 735.
 Special and Technical Schools, 737.
 Surveying and Engineering, 728.
 Sunday Schools, History of, 111.
 Austria, 35.
 Baden, 91, 111.
 Bavaria, 101, 105, 111, 112.
 Hamburg, 152.
 Prussia, 179.
 Wurtemberg, 111.

 Tabarou, Method of Instruction, 486.
 Taeye, on Art and Drawing, 664, 669, 670, 675.
 Tailors' Academy, 330.
 Teachers of Technical Schools, 70, 227, 782.
 Technical Education, Authorities on, 32.
 Technical Education, Results of, 395.
 Telegraphic Service, 421, 729.
 Teniers, 637.
 Thaer, A. D., and Agricultural Schools, 205.
 Tharand, Forestry School, 307.
 Thonin, and the Garden of Plants, 557.
 Togmarelli, 648.
 Tournai, Industrial School, 617.
 Trade Schools in different countries.
 Austria, 39.
 Baden, 91.
 Bavaria, 105.
 Free Cities, 150, 158.
 Hanover, 164.
 Nassau, 173.
 Prussia, 181, 193.
 Wurtemberg, 358.
 Trondjem, Technical School, 710.
 Turgot School at Paris, 540.

 Universities, or Superior Schools.
 Austria, 34.
 Baden, 82.
 Bavaria, 98.
 Belgium, 608.
 Brunswick, 137.
 Denmark, 699.
 France, 401.
 Hanover, 163.
 Holland, 691.
 Italy, 787.
 Norway, 705.
 Portugal, 789.
 Prussia, 177.
 Russia, 718.
 Saxony, 287.
 Saxe Weimar, 346.
 Spain, 791.
 Sweden, 711.
 Switzerland, 736.
 Wurtemberg, 351.
 University, Industrial, 743.
 Valenciennes, School of Art, 436.
 Vaucanson, 427, 439.
 Vehrl. See Wherli.
 Versailles, Agronomic Institute, 548.
 Verve, Industrial School, 616.
 Veterinary Instruction.
 Austria, 75.
 Denmark, 701.
 France, 550.
 Prussia, 218.
 Russia, 732.
 Saxony, 311.
 Veterinary Surgery, special schools and courses.
 Alfort, 550.
 Berlin, 218.
 Copenhagen, 701.
 Cureghen, 634.
 Dresden, 324.
 Grignon, 569.
 Hohenheim, 374.
 Poppelsdorf, 214.
 Tharand, 311.
 Victoris, Frere, aids of Scientific Drawing, 605.
 Vienna, Special Schools in.
 Apprentice Schools, 39.
 Art Schools, 79.
 Commercial Schools, 77.
 Diagram, school connections, 100.
 Higher Trade Schools, 44, 45.
 Museum for Art and Industry, 668.
 Polytechnic School, 38, 50.
 Vilvorde, Horticultural School, 638.
 Vine Culture, 574, 731.
 Vinci, Leonardo da, 513, 521.

 Watch-making, Schools for,
 Besançon, 491.
 Cluses, 492.
 Furtwangen, 92.
 Geneva, 742.
 Morteau, 491.
 Sallanches, 438.
 Vasson, 491.
 Weaving, Schools for Teaching.
 Belgium, 613.
 Mullhouse, 496.
 Mundaburg, 116.
 Passault, 116.
 Prussia, 183, 203.
 Saxony, 305, 329.
 Werner, A. G., 314.
 Werner's Mineral Museum, 315.
 Werner and Mining Schools, 314.
 Weißensteffin, Agricultural Institute, 127.
 Wherli, Jacob, 771.
 Wimmer, Hermann, 289.
 Winterthur, Public Schools, 744.
 Winterthur, Schools in, 744.
 Wigard, 319.
 Wirth, 230.
 Wood Carving, 116.
 Women, Technical Schools for,
 Austria, 79.
 Bavaria, 136.
 France, 606.
 Prussia, 219.
 Saxony, 293.
 Wornum, Professor, 507.
 Work and Study.
 Workshops with Schools, 452.
 Augsburg, 117.
 Berlin, 199.
 Lausanne, 738.
 Liege, 620.
 Paris, 460, 477.
 Stuttgart, 369.
 Zurich, 759.
 Workshops and Apprenticeships, 610.
 Wurtemberg, area, population, schools, 337.
 Statistics, 337.
 Special and Technical Schools, 352.
 Contents, 16.
 Wurzburg, Music School, 126.

 Zehlicke, on Drawing, 230.
 Zerrenmer, on Drawing, 230.
 Zurich, Federal Polytechnic School, 733.
 Zwickau, School of Practical Miners, 319.

SCIENCE AND ART IN GREAT BRITAIN: Systems, Institutions, and Statistics of Scientific Instruction applied to National Industries. (256 pages.)

SPECIAL EDITION—with an Appendix containing chapters from *Technical Instruction* in Austria, Baden, Bavaria, Hanover, Prussia, Wurtemberg, France, &c. Price \$3.00. (244 pages + 256 pages.)

CONTENTS.

	PAGE.
INTRODUCTION.....	7-24
SCIENCE AND ART IN NATIONAL INDUSTRIES.....	7
American Deficiencies.....	7
European Experience.....	11
I. SYSTEM AND INSTITUTIONS OF SPECIAL INSTRUCTION—GREAT BRITAIN.....	21
1. <i>Advocates and Promoters of Realistic Instruction</i>	25
Elyot—Bacon—Milton—Ratich—Comenius—Hoole—Hartlib—Petty—Cowley,..	25
Locke—Adam Smith—Anderson—Birkbeck—Brougham—Spencer—Russell,...	30
2. <i>Associated Efforts—Organized—Incorporated—Subsidized</i>	33
Society of Arts, Manufactures and Commerce.....	33
Royal Society—Royal Institution—Central and Provincial.....	35
Societies to advance Astronomy, Botany, Geology, Mineralogy, Zoölogy, &c.,...	37
Societies to promote Agriculture, Horticulture, Architecture, Engineering, &c.,..	38
3. <i>Government Aid to Science and Art</i>	39
Royal Galleries—Royal Academy—British Museum—National Gallery.....	41
Schools of Design—Department of Practical Art—Department of Science.....	43
II. SCIENCE AND ART DEPARTMENT.....	49-110
1. National Functions of the Department.....	49
Drawing in its General and Special Uses.....	57
National Gallery of British Art.....	63
Scientific Institutions and Instruction.....	71
Permanent Museum of Art Designs and Production.....	77
National Collection of Architectural Art.....	85
Museum of Educational Literature and Appliances.....	89
National Portrait Gallery.....	92
2. Existing Organization.....	93
Art Department—Regulations revised in 1869,	93
Science Department—Regulations of 1869.....	101
Whitworth's Scholarships, and Exhibitions in Aid of Mechanical Science.....	106
3. Operations and Results in 1869.....	109
III. INSTITUTIONS FOR INSTRUCTION IN SCIENCE AND ART IN DETAIL.....	111-180
1. Metropolitan Museums, and Schools of Science.....	111
National Art Training School in London.....	111
Museums of Natural History, and of Economical Geology.....	117
Educational Uses of Public Museums.....	117
Government School of Mines.....	122
Royal College of Chemistry.....	123
2. Provincial Museums, and Schools of Science and Art.....	124
Manchester—Owens College,	124
Birmingham—Midland Scientific Institute.....	125
Oldham—School of Science and Art,	127
Bristol Trade School, and School of Mines.....	129
Cornwall School of Mines.....	130
3. Scotland—Royal Institution—Industrial Museum.....	131
Edinburgh—Watt Institution and School of Arts.....	132
4. Ireland—Science and Art.....	133
Dublin—Royal College of Science.....	143
Royal Society—Industrial Museum.....	143

	PAGE.
IV. SCIENTIFIC INSTRUCTION IN LITERARY INSTITUTIONS—OLD AND NEW,.....	137
Public Schools, and other Secondary Schools,.....	137
Universities—Oxford—Cambridge—London,.....	137
Graduation Scheme in Edinburgh University,.....	140
Agriculture—Engineering and Mechanical Science—Veterinary Science,.....	141
Modern Schools, of Natural Science, Mathematics, and Living Languages,.....	143
V. NAUTICAL EDUCATION AND NAVIGATION SCHOOLS,.....	145-160
Historical Development,.....	145
Navigation Schools under Mercantile Marine Board,.....	146
Trinity House School at Hull—London Navigation School,.....	147
Liverpool Marine Society and School Ship Akbar,.....	148
Outline of Aims and Management,.....	149
Obstacles to the Success of Navigation Schools,.....	157
Aid to Navigation Schools and Classes in 1863,.....	159
School of Naval Architecture and Marine Engineering,.....	160
VI. AGRICULTURAL EDUCATION AND SCHOOLS,.....	161-176
Ireland—System of Agricultural Instruction,.....	161
Professorships of Agriculture in Queen's Colleges,.....	161
Institutions and Instructions in National School System,.....	162
Model Farm and Albert Institution at Glasnevin,.....	165
Model Agricultural Schools,.....	171
Workhouse Agricultural School,.....	172
England—Royal Agricultural School at Cirencester,.....	175
Veterinary College near London,.....	176
Scotland—Professorship and Degree in Edinburgh University,.....	176
VII. COMMERCIAL AND ECONOMIC SCIENCE AND SCHOOLS,.....	177-180
City of London School—Kings College,.....	177
Birkbeck Schools—William Ellis—Peckham School,.....	178
VIII. CHRONOLOGICAL DEVELOPMENT OF SCIENTIFIC TECHNICAL INSTRUCTION,...	181-228
1. JOHN MILTON—Plan of an Academy—1644,.....	181
2. SIR WILLIAM PETTY—Plan of a Trades College—1647,.....	191
3. SAMUEL HARTLIB—Plan of a College of Husbandry Learning—1651,.....	198
4. ABRAHAM COWLEY—Plan of a Philosophical College—1666,.....	209
5. J. SCOTT RUSSELL—Plan of a Technical University—1868,.....	219
IX. INFLUENCE OF INDUSTRIAL EXHIBITIONS ON TECHNICAL EDUCATION,.....	225
Historical Development of International Exhibitions,.....	225
Attention to Scientific and Technical Instruction,.....	226
Results of the Great Industrial Exposition of 1851,.....	227
Commissioners of the Great Exhibition of 1851—Surplus Funds,.....	227
Purchase and Improvement of South Kensington Estate,.....	227
Crystal Palace at Sydenham, and other Public Museums,.....	227
Albert Hall of Arts and Sciences,.....	228
Annual International Exhibition of Select Works of Art and Invention for 1871,....	228
X. ENGLISH LESSONS IN TECHNICAL EDUCATION,.....	229-246
International Exhibitions of 1851, 1854, 1862, 1867,.....	229
English Jurors on the Relative Progress of English Industry,.....	236
English Workmen on what they saw in Paris in 1867,.....	239
XI. STATE OF SCIENTIFIC AND TECHNICAL EDUCATION IN ENGLAND,.....	247
Report of Select Committee on Scientific Instruction,.....	247
Conference under call of Society of Arts, Jan. 23, 1868,.....	249
XII. EUROPEAN EXPERIENCE IN TEACHING DRAWING,.....	251
Letter of Commissioner of Education,.....	251
Index to Drawing in Part I.—Technical Education,.....	256

SPECIAL EDITION.

In the chapters which follow page 256, the folios referred to are the same as in the volume on *Technical Education*, from which they are taken, but as they are in consecutive order, the folios will not lead to any confusion in reference

The policy of the English Government, down to a very recent period, has been to leave the promotion of Science and Art, even in their obvious connections with national industries—the mining, commercial, manufacturing, and mechanical productions of the people,—to individual and associated effort. Within the last half century, and more rapidly and thoroughly within the last twenty years, this policy has undergone great changes, until there is not a government in the world which appropriates such large sums annually for the advancement of Education, Science, and Art. We give a list of annual appropriations from the public treasury for these purposes, mostly for 1869.

I. ELEMENTARY EDUCATION.

1. England and Scotland—through Committee of Council.—

(1.) Central Office and Administration,.....	£22,531
(2.) Inspection (68 Inspectors)—Salaries and Travel,.....	64,103
(3.) Training Colleges* (38) for Elementary Teachers,.....	74,250
(4.) Sums paid toward Teachers' Salaries— <i>Scotland</i> ,.....	79,500
“ “ “ “ “ “ <i>England and Wales</i> ,.....	549,639
(5.) Building grants, apparatus, &c.,†.....	45,500
Total for England and Scotland,.....	£835,523

2. National Schools, Ireland:—

(1.) Central Office,.....	17,412
(2.) Inspection—Salaries and Travel,.....	35,461
(3.) Normal Establishments,.....	8,245
(4.) Agricultural Schools,.....	5,828
(5.) Books and apparatus,.....	26,952
(7.) Teachers' Salaries,.....	360,194
Total through National Board for Ireland,.....	£454,092
Total for Elementary Instruction in Great Britain,.....	£1,289,615

II. HIGHER EDUCATION.

The principal expenditures for Institutions of Secondary Education in Great Britain, Scotland, and Ireland, are met by endowments (the annual income of which is about £1,000,000) and parental payments.

The 8 great Universities of England, Scotland, and Ireland, have endowments to the annual value of over £700,000.

To aid Universities and Colleges of Superior Instruction, Parliament made grants in 1869 as follows:—

1. Oxford and Cambridge,.....	£10,000
University of London,.....	9,063
2. Universities of Scotland,.....	15,192
3. Queen's Colleges (Belfast, Cork, Galway), Ireland,....	11,520
Belfast Seminary,.....	2,050
Maynooth—St. Patrick's College,.....	26,000
Queen's University, Ireland,.....	3,155
4. University Buildings (Glasgow, London),.....	100,000
Total,.....	£176,980

III. SCIENCE AND ART DEPARTMENT.

1. Central Administration,.....	£8,507
2. Schools of Science and Art—Central and Provincial,.....	70,860
3. South Kensington Museums—Collections, &c.,.....	90,740
4. National Portrait Exhibition (1868–9),.....	3,000
5. East of London Museum,.....	10,000
6. Schools of Mines and Chemistry, and Geological Museum,..	12,253
7. Edinburgh Museum of Industrial Art,.....	8,219
8. Royal College of Science for Ireland,.....	6,236
Royal Dublin Society,.....	2,185
Botanic Garden at Glasnevin,.....	1,950
Museum of Natural History and Library,.....	2,785
Royal Hibernian Academy,.....	300
Total for Science and Art Department,.....	£217,035

IV. LEARNED SOCIETIES AND SCIENTIFIC PURPOSES.

1. Royal Society, London,	£1,000
For Meteorological Observations,	10,000
Royal Geographical Society,	500
Royal Geological Society,	1,500
Royal Academy of Music,	500
Royal Irish Academy,	1,784
Edinburgh Observatory,	890
Edinburgh Royal Society,	1,520
Geological Survey of the United Kingdom,	19,778
Hydrographic Department of the Navy,	66,000
Greenwich Observatory,	4,414
Buildings (Museums of Natural History, &c.),	200,000
<i>Total</i> ,	£307,886

V. MUSEUMS AND GALLERIES OF ART.

1. British Museum, London,	£99,380
2. National Gallery,	15,992
3. Historical Portrait Gallery,	1,800
4. National Gallery of Ireland,	2,740
Royal Institution, and Board of Manufactures, Edinburgh, ..	4,500
5. Art Ornamentation of Parliament Houses,	10,000
6. Annuities, &c., on former Donations and Bequests,	5,000
<i>Total</i> ,	£139,422

VI. MILITARY AND NAVAL SCHOOLS AND EDUCATION—1868-9.

1. Military Schools, &c.—	
Council of Military Education,	£8,207
Royal Military Academy—Woolwich,	38,581
Royal Military College—Sandhurst,	36,731
Staff College at Sandhurst,	7,955
Regimental and Guard Schools,	39,015
Royal Military Asylum and Normal School,	14,917
Royal Hibernian Military School,	11,378
Department of Instruction for Military Officers,	2,945
Military Medical School,	9,600
2. Naval Schools and Nautical Purposes.—	
Royal Naval College at Portsmouth,	£3,561
School of Naval Architecture,	4,000
Director of Naval Studies,	1,000
Seamen's, Dockyard, and Harbor Schools,	3,000
Navigation Schools (exclusive of Science Department aid), ..	2,000
Greenwich Hospital Schools (Funds),	20,000
<i>Total</i> ,	£202,890

VII. JUVENILE CRIMINALS AND REFORMATORIES.

For England and Wales,	£123,000
“ Ireland,	48,960

These objects, numerous and important as they are, do not exhaust the list of Parliamentary appropriations for Education, Science and Art in 1869, but the sums, large in single instances, exceed in the aggregate (£2,500,000) those made by any other government for the same period. It only needs a more systematic administration of the public grants, to stimulate and direct wisely local, institutional, and individual activity, and supplement their deficiencies by doing well what individuals, associations, or local communities can not do thoroughly, if at all—to bring the Special as well as the General Instruction of the whole country on to a higher plane than they now occupy in any other State.

SCIENCE AND ART DEPARTMENT,

AND THE SOUTH KENSINGTON MUSEUM.

WE propose to present the design and development of the Science and Art Department in copious extracts from a series of Introductory Addresses, prepared and delivered in the autumn of 1857, for the express purpose of commending the special object of each portion of this great national movement and institution to the attention and coöperation of the people of Great Britain.

FUNCTIONS OF THE SCIENCE AND ART DEPARTMENT.*

The Science and Art Department is rather a consolidation of institutions, most of which have been long established, than the creation of any new ones. The oldest institution connected with the Department is the Royal Dublin Society, which as early as 1800 received an annual public grant of 15,500*l.*, a sum it disbursed without being subject to much parliamentary control. The School of Mines, Geological Museum in Jermyn Street, and Geological Survey, were in process of organization from 1837 to 1851, and were placed under the Chief Commissioner of Public Works. The Industrial Museum of Ireland owes its origin to Sir Robert Peel in 1845, and was also subject to the Chief Commissioner of Works, whilst the School of Design, which is the parent of the present Schools of Art located in all parts of the United Kingdom, and supported mainly by local authority and action, was founded in 1837 by Mr. Poulett Thompson, afterwards Lord Sydenham, and was subject to the authority of the Board of Trade.

All these institutions had in view the promotion of scientific and artistic knowledge of an industrial tendency at the expense of the State, but they acted in different ways, independently of each other, and were subject to different kinds of ministerial responsibility.

After the Exhibition of 1851, public opinion unanimously demanded that the State should give more systematic assistance to the scientific and artistic education of the people than it had hitherto done; and it was an obvious process, and in accordance with the working of institutions in this country, rather to improve and consolidate what existed already than to create a new institution.

Accordingly, in 1852, whilst Mr. Cardwell was President of the Board of Trade, the Royal Dublin Society, the Mining Museum and School in Jermyn Street, the Industrial Museums of Ireland and Scotland, with the Department of Practical Art, were united to form the Department of Science and Art under a single parliamentary authority, and were required to publish an annual statement of the results of their working.

The Science and Art Department now constitutes the division of the Committee of Council on Education, charged with the duty of offering to the public increased means for promoting secondary or adult education. All the functions attaching to primary education remain as a separate division of the Committee of Council, and are carried on at Whitehall. The recent transfer of the Science

* An Address on the Functions of the Science and Art Department. By Henry Cole, Secretary and Superintendent. Delivered Nov. 16, 1857.

and Art Department from the Board of Trade has not affected them, except to enable the President and Vice-President to render the working of any points of contact between primary and secondary education harmonious and consistent.

The teaching of the applied sciences—chemistry, physics, natural history, mechanics, navigation, and the fine arts, taking drawing as an indispensable beginning—constitutes the precise object of secondary education, developed in various ways by means of museums, schools, public examinations, payments for results, and the preparation of examples. Whatever advantages the Department is enabled to offer to the public may be obtained without requiring any denominational test, which the primary division of the Education Board at the present time demands. Except in the case of the public museums, which the public enter without payment at certain times, the aid tendered by the Department can only be obtained by a voluntary coöperation on the part of the public, and moderate payments, varying according to the means of the applicants for instruction, afford the test that the assistance sought is really valued. To obtain the assistance of the Department in establishing schools, there must be subscriptions from the benevolent to provide a capital for starting—the fees of students provide in great measure the current expenses and a partial payment to the teachers, whilst the Department comes in aid in various ways in paying for the instruction itself. Under this system all classes are enabled to take their proper share in it, and equal opportunities are afforded to the whole people for developing any talents they may be endowed with. The work thus done is mainly done by the public itself on a self-supporting basis as far as possible, whilst the State avoids the error of continental systems, of taking the principal and dominant part in Secondary Education.

No Danger of Over-educating.

It has been said, and particularly in reference to drawing, that the State is instructing people beyond their stations. I will not defend drawing, the necessity for which may be left to be dealt with in Mr. Burchett's lecture, except to say that Adam Smith half a century since observed, that "There is scarce a common trade which does not afford some opportunities of applying to it the principles of geometry and mechanics, and which would not therefore gradually exercise and improve the common people in those principles, the necessary introduction to the most sublime as well as to the most useful sciences. The public can encourage the acquisition of those most essential parts of education by giving small premiums and little badges of distinction to the children of the common people who excel in them." I will, however, answer the general argument against the over-education of the poor, by calling as my witness Archbishop Cranmer. It was proposed three centuries ago to admit to Canterbury Grammar School none but the sons of gentlemen; "Whereunto," as Strype in his Memorials relates, "the Most Reverend Father the Archbishop, being of a contrary mind, said, that he thought it not indifferent so to order the matter; 'for,' said he, 'poor men's children are many times endued with more singular gifts of nature, which are also the gifts of God, as with eloquence, memory, apt pronunciation, sobriety, and such like, and also commonly more apt to apply their study than is the gentleman's son, delicately educated.' Hereunto it was on the other part replied, 'that it was meet for the ploughman's son to go to plough, and the artificer's son to apply the trade of his parent's vocation; and the gentleman's children are meet to have the knowledge of government and rule in the Commonwealth. For we have,' said they, 'as much need of ploughmen as any other State; and all sorts of men may not go to school.' 'I grant,' replied the Archbishop, 'much of your meaning herein as needful in a Commonwealth; but yet utterly to exclude the ploughman's son and the poor man's son from the benefits of learning, as though they were unworthy to have the gifts of the Holy Ghost bestowed upon them as well as upon others, is as much as to say as that Almighty God should not be at liberty to bestow His great gifts of grace upon any person, nor nowhere else, but as we and other men shall appoint them to be employed, according to our fancy, and not according to His most godly will and pleasure. Who giveth His gifts, both of learning, and other perfections in all sciences, unto all kinds and states of people indifferently.' * * * *

'The poor man's son by painstaking will for the most part be learned, when

the gentleman's son will not take the pains to get it. And we are taught by the Scriptures that Almighty God raiseth up from the dunghill, and setteth him in high authority. And whensoever it pleaseth Him of His divine providence, He deposeth princes unto a right humble and poor estate. Wherefore if the gentleman's son be apt to learning, let him be admitted; if not apt, let the poor man's child that is apt enter his room.' "

Some pains have been bestowed to take care that the facilities in obtaining increased knowledge in science and art offered by the State shall not weaken or supersede individual exertions, but, on the contrary, aid and stimulate them by doing only those things which must either be done by some central authority or would otherwise be left undone. The argument is still held, but with less pertinacity than heretofore—the world becoming gradually more anxious to get at the great result than to quarrel about the means—that the State ought to abstain from all interference whatever in public education. One ground is that every thing should be left as much as possible to the *laissez faire* principle, and another, that whatever the State undertakes it must necessarily do less well than the individual could do it. Both these positions, true as broad principles, have in respect of public education been so unanswerably controverted by the first and most liberal of modern English writers on *Political Economy*, John Stuart Mill, that it is only necessary to refer to his work, where he proves that education is one of those things which it is admissible in principle that a Government should provide for the people, and that help in education is help towards doing without help, and is favorable to a spirit of independence.

Examples of the Utility of State Interposition.

Passing from the question of general education to the specific action of the Department, it will be right to give some instances of its functions which could not be carried out by any private agency. Neither Navigation Schools nor Schools of Art, in the present state of public intelligence, could well exist without the assistance that the State affords to them. The collecting of casts and examples of art from the national museums of other countries could only be systematically carried on by a Government agency. Already the French Government have permitted electrotypes and casts to be taken of the finest original works in the Louvre, Hotel de Cluny, and Musée d'Artillerie, at Paris, and these repetitions may be seen in the Museum. Arrangements have been made to obtain similar privileges in Dresden, Berlin, Frankfort, Vienna, &c. Thus in a few years copies taken by means of electricity and photography of the great Art-treasures in Europe will be collected for the benefit of this country; and, by a self-acting process be distributed as prizes to local museums and schools, and thus will lay the foundations for the establishment of local museums of art, wherever the people themselves may make the necessary arrangements for housing and preserving them. Another instance of the necessity for a central action, which may be open to public criticism, and be above the suspicion of partiality in administration, is shown by the establishment of the Educational Museum. This Museum is for the most part the assemblage of voluntary offerings of books, objects, and appliances for aiding education produced by different agencies, all competitors with one another. The producers of educational books and apparatus here willingly submit in competition to the public the publications they have issued. The public here may consult and compare together the different models of schools recommended by the National Society, the Home and Colonial Society, the Homerton College, and others. The Society of Arts, at the instigation of Mr. Harry Chester, originated the Educational Museum, and devoted several hundred pounds to its maintenance for a few months; but the loss arising from this useful enterprise proved that no private agency could maintain an Educational Museum. Whilst, for the benefit of general literature, the copyright law obliges the publisher to send to the British Museum Library a copy of every work that he issues, the Educational Museum accomplishes for national education a similar object almost wholly by the voluntary contributions of producers. The State provides the house-room and custodyship, whilst the public themselves supply the contents.

Importance of Science to the Industrial Arts.

A somewhat narrow defence of State interference in promoting Science and Art may be found in the influences which they exercise upon the material prosperity of the country. It seems almost a truism to say that the successful results of all human labor depend upon the right application of the laws of science, which are not the less necessary because they may be unknown. In the early life of a people those laws are employed empirically. The savages of Lahore or Delhi have been great adepts in the application of the laws of color to manufactures, and have had no schools of art. The hides of oxen, in all quarters of the globe, were made into leather by means of scientific principles, long before chemistry had been matured into a science. But in these days of the scientific discovery of Nature's laws, the value of production, in all its infinite varieties, is materially affected by the right application of those laws; and such is especially the case among the more modern nations. Follow the history of the sheep, for example, in all its details, as shown in the Animal Museum. Liebig has taught us how essential to success are the proper relations between the earth and the food of the sheep, and the mutual reaction of each of them. The Duke of Richmond and Mr. Jonas Webb know well enough how to apply scientific laws that influence the production in the same animal of the greatest quantity of the best wool for manufactures, and of the largest amount of mutton for food. In every stage of the preparation of wool, chemistry and mechanics are brought to bear. Since the beginning of the Patent Laws in this country up to 1852, when the reform took place, upwards of 370 patents had been taken out bearing upon the preparation and uses of wool; and between 1852 and 1855, 142 patents have been taken out. These facts only indicate partially the amount of mechanical science applied. The combing, the carding, the drying, the felting, the spinning and weaving, are all good or bad in proportion as scientific laws are obeyed or not. And then, whether or not the garment, the hangings, the tapestry, and the carpet gratify the taste, is altogether dependent on the application of the laws which regulate beauty. To offer to every one in this kingdom the elementary knowledge whereby his labor may have the best chances of fruitful and profitable development, appears to be the aim, in its broadest sense, of all public expenditure on behalf of Science and Art.

Public Grants to Science and Art.

The total national expenditure for promoting Public Education and Science and Art in every way through the primary division of the Education Board, the British Museum, National Gallery, grants to Universities, and grant to this Department, may be taken, at the present time, to be in round numbers a million of pounds sterling,* which, divided among our population, say, of 30,000,000, makes the contribution of each to average eight pence per head per annum. It is difficult to calculate the annual value of the production of this country; but I think, seeing that our imports and exports last year amounted to 288,545,680*l.*, it is not an over-estimate to place it as being worth 400,000,000*l.* a year. The State contribution towards Education, Science, and Art, which vitally influences this enormous amount, bears therefore the proportion of the outlay of one pound on behalf of Education, Science and Art for every 400*l.* of production, or one penny in every 1*l.* 13*s.* 4*d.* The annual Parliamentary vote for the Science and Art Department only, being under 75,000*l.*, is less than a five-thousandth part of the estimated annual production, and is about a thousandth part of the annual taxation of the country.

The Education Boards in England and Ireland, the Schools of Design, and the greater number of the grants for promoting Science and Art, have all arisen since the passing of the Reform Bill in 1830. It was rather the influence of the Crown that created the Royal Academy in 1768 than any public demand. And so feeble was the expression of public opinion through the Commons representatives in 1810 on the subject of Public Galleries, even if it existed at all, that the then Chancellor of the Exchequer is said to have refused to accept the Dulwich Gallery of Pictures as a gift to the nation, on the condition of housing

* Increased in 1868-9 to £1,614,433.

and taking care of the Pictures. Last year the Government, through Lord Stanley of Alderley, as President of the Board of Trade, built a structure on their own responsibility to secure Mr. Sheepshanks' munificent gift of pictures, valued at 60,000*l.*, and Parliament afterwards cheerfully voted a sum, under 5,000*l.*, requisite for its cost. In half a century such has been the change of public opinion in respect of National Galleries of Pictures.

Art and Art-Teaching.

Inheriting the old Schools of Design, the Department, on behalf of Art, exercises a more direct and positive action than for Science; but even in Art every one may take any of the advantages offered, either in recommendations to masterships or prizes, whenever he may have acquired the requisite ability. It is not essential that he should have been a student in any school of art. At present it seems necessary to have a Central Training School of Art for masters. There are no symptoms whatever that, if this function were not undertaken by the State, it would be performed at all; and certainly the provision of competent teachers is a first necessity to promote knowledge. Any one, however, can offer himself for a certificate of competency, although he has not been trained in the school. But the feebleness of voluntary efforts is shown in the fact that, since its establishment five years ago, only one person, not a student, has offered himself for such examination and succeeded at once in obtaining an Art master's certificate.

Science Schools.

The establishment of a Local School of Science, Navigation, or of Art, originates entirely with the locality that wants it, and before the Department acts, certain things must be done, suitable premises must be found, and a certain constituency registered as being willing to be taught for a given time. The Department then grants partial aid in furnishing the necessary examples, recommends a master, who is appointed by the local committee if approved, inspects the working, tests the results by examination, and awards prizes. This partnership having been thus matured, all the advantages of the Central Museum and Library, and any experience the Department may have to offer, are placed at the disposal of every school, to use as it finds occasion.

The number of Navigation or Science schools of all kinds at the present time in connection with the Department is twenty-two. The number of Schools of Art throughout the United Kingdom at the present time is sixty-nine; and, according to the last returns, they were the means of educating upwards of 35,000 students in drawing and painting. These numbers include children in poor schools under instruction in drawing. Since the Schools of Design were expanded into Schools of Art, and made to embrace the teaching of drawing in public schools, the progress has been as follows:—In 1851, 3,296 students learning drawing cost the State 3*l.* 2*s.* 4*d.* each. In 1856, 35,000 students cost the State about 15*s.* each, as nearly as can be estimated.

It is not made necessary to create separate and special schools for teaching elementary science and drawing. Rules are established whereby they may be introduced into primary and existing public schools. Ten or fewer primary schools, offering in the aggregate 500 children for instruction in drawing, may obtain the services of a certificated teacher of Art, and the aid of the Department. This is a temporary measure until the general schoolmasters have acquired the power of teaching drawing concurrently with writing. The Primary Division of the Education Board will add eight pounds annually to the schoolmaster's certificate allowance when he is able to do this. It will be a great step when one town can show that drawing is taught in all its public schools; the schoolmasters teaching the elements, and the art-master of the district teaching an advanced class and inspecting the whole. Besides this direct action, the Department further aids by examination and prizes. There are three grades of examinations, and every one, however taught, is free to offer himself or herself for examination and take the prize attached to the grade. These prizes begin with a pair of compasses, and terminate with ten pounds' worth of works of art given to the School of Art which produces the student who successfully competes with all the other students of the whole schools.

Improved Diagrams and Examples.

The suggestion of improved diagrams and examples is another function of the Department. It is not too much to say, that the publication of Diagrams like Professor Henslow's for Botany, Mr. Patterson's for Zoölogy, and Mr. Marshall's for Physiology, all suggested by the Department, but published in the ordinary channels of trade, are the best which can be shown in Europe. In the Paris Exhibition there was no parallel exhibition to our own of the aids for teaching Science and Art, and this result is due to the abstinence of the Department from invading the province of the tradesman, which is too common abroad. In the use of these examples by poor schools only, the Department is authorized to grant an aid of about forty per cent. Since this system was instituted in 1852, upwards of 1,500 public schools have been assisted, and all the private schools in the country have had better examples placed before them.

South Kensington Museum.

It has been said that the contents of the Museum here are very heterogeneous, although Science or Art is the basis of all the collections. The remark is just. These collections come together simply because space was provided for their reception. For years they had been for the most part either packed away unseen, or were very inadequately exhibited, and the public deprived of the use of them. The architectural collections belonging to the Department for years were buried in the cellars of Somerset House, and were but most imperfectly shown at Marlborough House. The prints and drawings possessed by the Department had never been seen by the general public. The casts of the Architectural Museum are surely better displayed here than in Cannon Row. The union of these collections, and the addition of the models of St. Paul's and various classical buildings, betoken what an Architectural Museum may become, if the individuals and the State will act together. Every foreigner who has seen this commencement sees in it the germ of the finest Architectural Museum in Europe, if the public support the attempt. But for this iron shed, a Patent Museum might have remained a theory. The educational collections were packed away for three years unused, awaiting only house-room to show them. Since the Exhibition of 1851, the Commissioners had been compelled to store away the Trade collections which either are so attractive here, or have been usefully distributed to local museums. The Iron Museum is only to be regarded as a temporary refuge for destitute collections.

Besides proving the public value of these collections, the provision of space has signally demonstrated the willingness of the public to coöperate with the State when space is found. The Museum, covering above an acre, is already more than filled, although every division of it is far from complete. But even the present collections, crude and imperfect as they are, have sufficiently attracted public attention, to confirm their public utility; and it may be expected that the public will not grudge that proper house-room for their more systematic arrangement and development should be provided. It was prudent at least to try the experiment, which has been fully justified by success. Distinct buildings of a permanent and suitable character are wanted for the Patent Collection; for the products of the Animal Kingdom, which logically seems to be an appendix to the national collection of the animals in the British Museum; and for the collections of Education and of Art, as well architectural as pictorial, sculptural, and decorative. For each of these collections prudence would provide very ample space, as they must continue to grow as long as they exist. Models of patented inventions, specimens of animal produce, architectural casts, objects of ornamental art, and sculpture, can not be packed as closely as books or prints in a library. They require to be well seen in order to make proper use of them; and it will here be a canon for future management that every thing shall be seen and be made as intelligible as possible by descriptive labels. Other collections may attract the learned to explore them, but these will be arranged so clearly that they may woo the ignorant to examine them. This Museum will be like a book with its pages always open, and not shut. It already shows something like the intention which it is proposed to carry out. Visitors may see in the system of labeling, especially in the Animal Collection, how instructive every thing may be made. What would be otherwise passed

unheeded or despised thus becomes a subject of interest. Although ample catalogues and guides are prepared and are preparing, it will not be necessary for the poor man to buy one, to understand what he is looking at.

Every facility is afforded to copy and study in the Museum. As many as twenty-five persons in a day, interested in education, have attended to consult the educational collections. At a low rate of fee, photographs may be ordered officially, as well as casts or molds of any object of ornamental art.

As future lectures will explain each collection and its objects in detail, I pass on with the single remark that these collections are for the most part of such a character that, unless they were supported or materially assisted by public taxation, they could hardly exist. This observation applies particularly to the models of Patented Inventions, Education, and Architectural and Decorative Art. Even with Architecture, it may be doubted if any private association could permanently maintain a comprehensive collection of a severe professional character, where the specimens were preserved with all their defects, and not restored or decorated. The mere space that an architectural collection illustrating all styles would fill, would seem to be beyond the success of any private voluntary efforts to provide and maintain.

The public attendance at this Museum thus far has been very remarkable. Since the Museum was opened in the middle of last June, the average numbers attending monthly have been upwards of forty-four thousand. At Marlborough House during the year 1855, being the last before the removal, the average numbers attending monthly were only seven thousand eight hundred. Should the rate of the present numbers be maintained, they will be above half a million in the year,* and exceed the numbers who visited the British Museum in 1854 and 1855, as well as the visitors to the National Gallery, both at Charing Cross and Marlborough House, which together, in 1856, were only 435,990.

Unlike any other public museum, this is open every day, on three days and two evenings, which gives five separate times of admission, making in summer an aggregate of thirty hours weekly free to every one. On the other three days and one evening it is free to students whose studies would be prevented by crowds of visitors; but, on these occasions, the public is not turned away, as a fee of sixpence gives every one the right of admission as a student; at the National Gallery and British Museum the public are excluded on students' or private days. Here it can not be said there are any private days.

For the first time, the experiment has been tried of opening a public museum in the evening, to ascertain practically what hours are most convenient to the working classes. It is much less for the rich that the State should provide public galleries of paintings and objects of art and science, than for those classes who would be absolutely destitute of the enjoyment of them, unless they were provided by the State. Although the Museum is open free for an average of twenty-one hours weekly in the day-time, and only for six hours in the evening, the visitors in the evening exceed those of the day by more than one-fourth. The numbers in the day-time, up to the end of October, have been 85,000, whilst those in the evening have been 110,000, or nearly five times the number that might have been expected. An observation of the evening visitors clearly proves that a large proportion of them are not of a class who can frequent public museums in the day-time, excepting at Christmas and Easter holidays. On Monday nights especially, great numbers are strictly of the working classes, to whom a day's visit would entail the loss of a day's wages, unless they happened to be out of work. There are not many of us who would visit public museums, if every visit cost us a day's earnings.

In the evening, the working man comes to this Museum from his one or two dimly-lighted, cheerless dwelling-rooms, in his fustian jacket, with his shirt-collars a little trimmed up, accompanied by his threes, and fours, and fives of little fustian jackets, a wife, in her best bonnet, and a baby, of course, under her shawl. The looks of surprise and pleasure of the whole party when they first observe the brilliant lighting inside the Museum, show what a new, acceptable, and wholesome excitement this evening entertainment affords to all of them. Perhaps the evening opening of Public Museums may furnish a power-

* Increased in 1869 to 1,200,000.

ful antidote to the gin palace. It is hardly necessary to say, since we have had above 110,000 evening visitors, not a single case of misconduct has occurred.

The Museum is open for the three first evenings a week to the public, but a rule has been made which enables any private society promoting science and art to have the Museum or the Lecture Theatre lighted up for their use upon paying the expenses of lighting and attendants on those nights when the Museum is closed.

The perfect success of these evening meetings in the Museum is one of the most gratifying results of the new arrangements, and I doubt if the most vigorous opponent of State assistance would venture to denounce them to an audience of working men as not worth the cost.

National Functions.

But it is not only as a metropolitan institution that this Museum is to be looked at. Its destiny is rather to become the central storehouse or treasury of Science and Art for the use of the whole kingdom. As soon as arrangements are made, it is proposed that any object that can properly be circulated to localities, should be sent upon a demand being made by the local authorities. The principle is already fully at work, and its extension to meet the public wants depends altogether upon the means which the public may induce Parliament to furnish. It may be hoped by this principle of circulation to stimulate localities to establish museums and libraries for themselves, or at least to provide proper accommodation to receive specimens lent for exhibition.

The number of works of the highest art is limited, and it can not be expected that every local gallery can possess many of them, but the mode of circulation alluded to would afford to every local gallery the qualification of having each some in turn. The circulation of pictures has yet to be commenced, but other works of art have been sent round to local Schools of Art for some time past. A collection of examples from the Museum of Ornamental Art, aided by loans of Sèvres porcelain from Her Majesty's collection, is now being circulated to every School of Art, where it remains for exhibition for a few weeks. Where the local appreciation of its value is lively, and local proprietors of works of art assist by loans, the exhibition becomes a source of profit to the school. Hanley in the Potteries, for instance, by means of the Department's exhibition, coupled with Mr. J. L. Ricardo's pictures, attracted above 20,500 visitors, and secured about 200% profit, which was applied to the benefit of the school. At Birmingham the number of visitors was 12,711, whilst the total number of visits which have been made to the Traveling Museum, since the plan was commenced, has been above 135,000.

The Library of Art at South Kensington is now also made the circulating library for the whole of the United Kingdom, and every School of Art has the privilege of borrowing the most valuable books, prints, &c., upon the single condition of guaranteeing their safe and punctual return.

Individual responsibility in the working of this Department is carried out as far as seems possible. A President in the House of Lords; a Vice-President in the House of Commons, with individual directors, personally responsible, who are appointed over each of the Museums and Schools of Science in London, Dublin, and Scotland. There is an Inspector-General for Science and another for Art, by whose advice the Committee of Council is guided professionally. Subordinate to them, but preserving the principle of individual responsibility, there are a head of the Training School for Art, and separate keepers of the collections of Art and Education. In the relations with local committees, provision is made to insure clear responsibilities and adequate publicity in the proceedings. The masters of the Schools of Navigation and Art and Science are appointed and dismissed by the local committees. There is no divided authority; whilst the Department merely recognizes results, about which there can be no dispute, and rewards them. Publicity is indeed the keystone of the action of this Department; and it can only prosper in proportion as the public is made acquainted with its proceedings and values them. It may be asserted that there is not a single detail in the action of this Department—in its schools, examinations, award of prizes, museums, and libraries—which does not invite the fullest publicity

INSTRUCTION IN DRAWING.*

Without wishing to attach an undue value to drawing, I believe it likely to exercise a not unimportant part in education in a moral, intellectual, and physical, or at least *manual* point of view; and, if this be the case, it must be evident that it is an important agent in what we agree to consider a matter of vital importance at the present time—the general education of the people.

It is a very common error to regard drawing as an *end* and not as a *means* in education, and this opinion has arisen from the manner in which it has too often been taught in schools, where it has been, perhaps, the most unreal of all the unrealities; a child has been set to copy a drawing or lithograph of, it may be, a picturesque pigsty, or some very dilapidated building, the indefinite and unprecise forms of which become still more vague and characterless in his hands, a few finishing touches from the teacher complete the work which has occupied much time, cost some money, and not imparted a single idea, or given the germ of any power. And if it be asked, What is the use of learning “this sort of thing?” the answer may safely be, “None at all;” but this is not even teaching *copying*, much more drawing.

Regarded aright, drawing, in general education, is the most potent means for developing the perceptive faculties, teaching the student to see correctly and to understand what he sees. Drawing, if well taught, is the constant practice of the analysis of forms. And by this practice the *eye* is quickened and rendered incomparably more accurate, and as the eye is the most open and ready road through which knowledge passes to the mind, the full development of its powers can be a matter of no small importance to all; in this respect, then, as an educator of the *eye*, drawing is a most valuable means, irrespective of any service that the power may be of in itself. But there is another faculty engaged in this study, that one which distinguishes man from the cleverest of the animals—the *hand* is employed, and it also is educated and trained to be more completely under the control of the will than by any other exercise it can be set to; it acquires a delicacy of movement and a refinement of power which no other discipline can impart, and which fits it more completely to perform its varied and delicate functions.

Two faculties, therefore, the perceptive and the reproductive, and those the most in demand and of universal application, are especially developed by education in drawing. The *eye* is taught to *see* all objects more correctly, the *hand* is trained to *do* every thing more precisely.

Drawing, therefore, is a most valuable discipline in early education, if it be viewed merely as a means of development of the faculties, and one equally fitted for all ranks and both sexes, and this must be constantly borne in mind as one of the causes of its utility—that it teaches to *see* and to *do* all things more perfectly; that it is a development of the general intellect of the country in an eminently practical direction.

In the present advanced state of mechanical science, hardly a week passes that the labor of men's hands is not to some extent superseded by machinery, and as this state of things progresses, so must the mind of the people be made to keep in advance of mere mechanical powers, or inevitably sink below them. Man must be the ruling and directing master of machinery, or he will become its slave. Every new invention in mechanics which supersedes the labor of men's hands renders more imperative the cultivation of their intellects, or masses of men will be thrown a mere drug, if one may use such an expression, upon the market of labor; less useful because less certain, and less under control, than their rivals of iron and brass, which know no wants and have no wills. But this very increase of the physical powers of a nation points imperatively to the development of powers which are often dormant in man, and which, admitting of no rivalry in machines, make not only an addition to the resources of the country, but extend the benefits conferred by mechanical science. In a philanthropic point of view, therefore, it is most desirable to extend

* Introductory Address on the Central Training School for Art, by Richard Burchett, Head Master of the South Kensington Training School, London.

the teaching of drawing to the greatest possible extent; and this is not the only value of this education in connexion with mechanical science—by the wide diffusion of mechanical powers, thousands become more interested in their use, and a greater knowledge of them is demanded; now they can only be well used when well understood, and in this drawing will be found a potent auxiliary. In a few years it is probable that a large proportion of our farm labor will be performed by machinery demanding a knowledge of it by those who use it, and freeing a large amount of labor for other channels. Drawing will be of the greatest value, therefore, to all the agricultural population, and it is not too much to say, that the diffusion of this kind of education may tend in no small degree to avert evils in a future day that have heretofore been heavily felt in this country, when mechanical and animal power have been strongly put in opposition.

There can be no doubt, therefore, but that drawing, if properly taught, is a most efficient means of developing the perceptive powers of the mind, and of the greatest use to all, for it may be truly said, that *no one can know forms or objects thoroughly, who can not draw them*, and that no one *does* know any form or object thoroughly until he has drawn it. This assertion *may* be doubted by those who can not draw; it will *never be* by those who can.

In all teaching of drawing, what is the first and greatest difficulty to be overcome? The imperfect power of seeing. The student has to be taught to *see correctly*; in the most advanced stages of instruction in drawing, the eye still lags behind, and a student readily corrects his errors when he is taught to *see* them.

Education in drawing, then, will confer a power of seeing more correctly, of knowing more truly the forms and objects by which we are surrounded or with which we come into occasional contact; it will be a draught from the well of truth, and as we *know* more of the objects which we see before and around us, we shall *love* more; and what can be a more fitting subject for the study of youth, of whatever condition or sex, than one which teaches them to admire and respect the works of the Creator of all things, whether emanating directly from his own hand or manifested through the agency of his creature—their fellow-man? It is, perhaps, impossible to realize the different appearance which the world presents to the educated and the uneducated eye; and yet great as this difference is, every lesson, every attempt to draw will decrease it, and some slight glimpse into this world of glory is afforded for every effort.

But it may be said that however desirable it may be to give this instruction early in life alike to all, it is impossible, from want of time and its interference with other studies which are regarded as more indispensable. But in order that this argument should be valid, it must be proved that instruction in drawing not only interferes with other studies, but that the time it takes from them is absolutely lost to them; but this is not so: on the contrary, instruction in drawing is found to be most helpful in many of the ordinary studies of all schools. What would be thought of a school where the children were not taught to write? And yet what is writing but the drawing of a series of arbitrary signs, and what an amount of time is necessary to draw them well. The art of writing is, in fact, nothing but drawing from memory. To the study of writing, then, the practice of drawing must be very helpful, and experience has shown the truth of this theory. The one or two hours a week devoted to drawing have been found of more advantage to writing than the same time devoted to it; and this may be readily understood on another ground—a child tires by constantly repeating the same letters, his best effort to imitate his copy is most frequently his first in the day's exercise, and he then goes on repeating and aggravating his own errors until they too often culminate in the last line of the copy: but in drawing it is not so, the copying is constant, but the copy is different in every part, the attention is kept alive by the greater care demanded, the faculty of imitation is more rapidly acquired, and by the exercise of this imitative faculty, even the writing lesson is brought much nearer the original copy. Great difficulties had to be encountered in many cases in introducing drawing into National and parochial schools, great complaints made of its interference, &c., yet such a change has been wrought that it is now universally considered an advantage to the other studies of the school: schools which

commenced with classes of twenty or thirty, now number their students by two and three hundred, and drawing is found to be a useful *introduction to the practice of writing*.

But apart from these desirable influences on general education, how important it is that children should acquire early in life the germ of any knowledge which may be of use to them later in their day, that they should both acquire a taste for, and remove some of those obstacles from, those studies to which it may be advantageous, either in youth or manhood, to direct their attention!

What complaint is more constant than that our workmen are uneducated, inferior in this respect to the same class on the continent—and perhaps it is so. But what is the workman's excuse? That he is too old now to go to school, that the hours spared from labor are necessary for repose, that his hands are stiff from toil, and he does not like to be a "child once more."

Remove this plea, therefore—the population of our schools furnish the occupants of our workshops; commence the education in the school, and when the boy leaves it to enter the workshop he will at once feel the value of the little power he possesses; this feeling will induce him to cultivate it; he will attend a school on some of his evenings, and by degrees and through these steps you will obtain a well-educated class of workmen. Is it nothing to have implanted in the mind of the child this desire for future knowledge that operates in furnishing him with intellectual employment and pleasure, joined with profit, in one and the same study? and will this exercise no influence upon the morals?

I advance these reasons, then, as so many pleas for making education in drawing a part of the school course of every child, and I address them to those who interest themselves in general education alone, and view it only as it affects the moral and material interests of the people.

It may be said that much that I have stated does not apply to females, and that in girls' schools drawing can exercise but little influence on the occupations of their after life; but this is much less true than at first may be thought, and setting out all the numerous class of women who live by their labor, and to a large number of whom drawing is as valuable as to any, it will be found to confer advantages upon all; habits of order and precision will be acquired, and the girl who has been taught drawing in her school will have one element in her character towards forming a good housekeeper.

There is one other point on which I wish to say a few words—the value of drawing as an universal language. How impossible it is often found to convey any clear impression to the mind of another by a merely verbal description of an object, when in a few minutes a very moderately instructed hand will, by means of a sketch or sketches, convey an accurate and unmistakeable idea to the mind of another. Now this is a want which all may feel, and it can only be supplied to the people generally as a portion of ordinary education. The education of an artist is not required for it, any more than that a person should be a master of *penmanship* in order to make his writing intelligible to his fellows; but some amount of drawing power, coupled with that clear idea in the mind of what the object is like, which drawing so materially tends to give, will be sufficient to save much time and many errors, particularly when both the parties understand the language of form.

I have dwelt thus upon the importance of drawing as a part of general education from a conviction that, like the old adage, which says, "If you take care of the pence the pounds will look after themselves," so I believe that if drawing can once be placed in its right position in primary education, that more advanced instruction, whether adapted to the requirements of the artizan and manufacturer or to the more extended desires of the lover of art, will never need advocates or want pupils.

From the first establishment of the Schools of Design their object was not the stimulation of a general love of art amongst the people, nor the furnishing all classes of the community with that kind of instruction in drawing which bore upon their particular trades, but it was avowedly the education of designers for manufactures; and to this end were all the efforts of the authorities and the studies of the schools directed and limited.

But the attempt to establish a School of Design was the first great proof of the necessity of establishing *Schools of Drawing*, and this, with perhaps a soli-

tary exception, they became, that is, *Schools of Drawing, with a limited range of study.*

However, in the fullness of time the conviction of the few, that in order to obtain the realization of the objects of the schools the education should commence earlier and be spread wider, became the opinion of the many; and after the Exhibition of 1851, on the formation of the Department of Practical Art, the Government first proposed to itself the task of diffusing education in drawing and the elementary practice of art as widely as possible amongst the people, and it especially sought to commence in the child the work it hoped to complete in the adult.

The work it undertook was,—To make elementary drawing a part of general education, offering to all some knowledge of the language of form as well as of the language of ideas; to supply to the mechanic and the artizan that kind of drawing power of which he himself felt the need, hoping to induce him to feel the desirability of obtaining still more, and to lead him to become the well instructed producer of the ideas of others; to the art-workman and the public generally it offered a complete education in art, extending its studies over the widest field and endeavoring to make each step in its education complete and thorough, embracing all that could be required in an art education, and including besides the systematic study and practice of ornamental art and of various studies bearing only upon it.

But before it could be possible to diffuse over the country such an education as this, embracing so wide and varied a range of studies, it would be evident that teachers must be found with qualifications different in kind and degree from those usually possessed by ordinary art teachers.

To secure this object the *Training School* was established, in order to teach as students and train as teachers those who should thus be enabled to disseminate this widely based and extensive course of education throughout the country; and to an exposition of the course of instruction and methods of study pursued in this school, and to some remarks upon some of its results, it is now my duty to address myself.

Its academic studies, however minutely they may be subdivided, group themselves under three heads, *drawing, painting, and modeling.* The classes of persons which those who are trained in its schools are expected to instruct may be divided into four—School-children—Workmen and mechanics, with a view to their trades, general art students, and those who study ornamental art with a view to becoming designers.

The object of the Training School is to educate students to become masters; for this purpose it selects from amongst the schools connected with the Department of Science and Art, and from other art students who may apply, such as by their previous art acquirements are deemed most likely to fulfill its objects. To enable such to pursue their studies for a sufficient length of time, allowances are granted extending from 5s. to 30s. a week to the students, they being expected to devote thirty-five hours a week to the objects of the school; of this time the principal number devote one-seventh to teaching: the more advanced one-third.

Besides an examination in general knowledge, embracing reading, writing, arithmetic, English history, and one book of Euclid, which every student is expected to pass on or shortly after his admission, the subjects of study in the school are divided into groups, to each of which an examination and a certificate is attached. These examinations consist of written papers on the various subjects connected with the groups, and works executed in the presence of the examiners.

Before any student can be admitted to such examination, he must have produced in the school the works pertaining to such group, which must also be of a thoroughly satisfactory character. Besides this, he teaches under constant inspection, and every month a report is made of the progress of his school and his own efficiency.

This is a brief outline of the student's course. I now come to speak more in detail of the studies through which he passes.

Bearing in mind the importance of teaching drawing to school-children and to mechanics, the first certificate which every student must take before he can

proceed further with his studies, or at least take other certificates, concerns itself especially with the studies which fit him for this duty. He must produce thoroughly satisfactory studies in drawing of ornament, foliage, geometric models, and the figure from the flat, of geometrical, mechanical, architectural, and perspective drawings; solve written papers on geometry, perspective, and color; execute in a given time before the examiners, works in perspective, mechanical, architectural, and model drawing; and he must have satisfactorily taught a parochial school.

The second certificate is for the study of painting, and embraces the practice of painting in oil, tempera, and water-color from ornament and objects of still-life; also the study of ornament, artistic botany, and the practice of elementary design. At the examination the student is required to solve written papers on the history and application of ornament, and to execute a time-sketch from a group of still-life before the examiner. In the second certificate, therefore, it is sought to provide by the systematic study of ornament for the education of the ornamental designer, while the requirements of the general student are not neglected.

The third certificate is attached to the study of the figure, and the examination conducted on a similar plan; the papers being on anatomy.

The fourth and fifth certificates are devoted to modeling; one of ornament, the other figure, the works being similar in character, and the written papers the same as in the second and third certificates.

The sixth group of certificates relate to more advanced technical instruction, including mechanical and architectural drawing, and various applications of art to manufacturing purposes, as painting on porcelain, &c. &c.

This, then, is the course of study, through a part or the whole of which a student in training must pass previous to being recommended for appointment. It remains for me to describe the manner of study.

All art-education divides itself into two groups; that which a student may be taught to *know*, and that which he must be taught to *see*. In the first may be included geometry, perspective, mechanical and architectural drawing, ornament (partially), and anatomy (partially); while the actual imitation of an object or the learning to see would embrace all studies, whether of drawing, painting, or modeling, in which artistic reproduction was sought to be achieved.

In accordance, therefore, with this, the instruction consists of class-teaching by class-lectures with blackboard illustrations, and that careful individual instruction without which all art-education must be merely nominal. The one principle being ever borne in mind that a student should be taught to know *why* he does *what* he does—the examinations being designed to ascertain this.

The means by which the students are trained in teaching remain to be pointed out.

It must be evident that to provide a sufficiently wide field of practice for a large number of students in training, as well as to secure the same kind of art-teaching as that which they would be required to *give* when employed as masters, schools similar in their nature must be attached to the Training School.

These were fortunately provided by the *parochial schools* of London for that class of tuition, and by the establishment in different districts of London by individuals unconnected with the Department, of schools of art, for affording instruction in the evening to adults and others. By this means was the *field for training* provided, not only without cost to the State, but the instruction being paid for at a low rate, the cost of the Training School was reduced.

This, then, is the course of instruction, the method of study, and the means of training adopted with the view of supplying the whole country with teachers, who, trained to commence with the child of the poorest or the more wealthy, when at school, are fitted also to impart to the mechanic and artizan the more special instruction adapted to their wants, and besides this are qualified by a careful course of instruction and training to give that general instruction in the elementary practice of art which it is sought to diffuse as widely as possible amongst the people.

But while dwelling on the results of this school in the training of masters for provincial schools, it is necessary not to forget its action as a school of art for the metropolis. The education which it affords to the student in training is

open to the general public by the payment of fees ranging in amount from 1*l.* to 4*l.* per session of five months. It has also classes for schoolmasters, and affords instruction to the detachment of Royal Engineers employed here.

No question connected with these schools has given rise to more discussion than that, whether design could be taught, should be taught, or was taught in them.

The designs produced in a *school* should and must be *exercises of the students*, and simply *studies in composition*. They are *exercises in design* to teach the student to *become a designer*, and this object will be much more certainly achieved by a careful and systematic study of ornament and of nature with a view to ornament, than by a more confined attention to mechanical necessities. Of one thing we may be sure, that if a student can be made or become a good designer *artistically*, he will find but little difficulty in overcoming the mechanical obstacles.

In one way alone can these schools ever become great schools of ornamental art—it must be by the undertaking of actual work to be done by masters, assisted by students. By such means, the coupling together instruction in art and its practical application, bringing all the studies of the school to bear upon the work in hand, not only may the students become first-rate ornamentists, but the ornamental art of the time become greatly improved, inasmuch as they would carry into their work more artistic feeling and power, and be less strictly confined within the pecuniary limits of profitable labor.

Let the masters of the schools take up the manufactures of their localities, or the practice of ornamental art of the highest class, and let the schools become *ateliers*, artistic workshops as well as schools, employed upon actual works, and meeting all the requirements of such employment, and we shall soon have a body of ornamentists and designers who would be unsurpassed in any country.

I have thus endeavored to place before you a concise statement of the objects and working of the Training School, as they may stimulate education in the elementary practice of Art, both in the provinces and the metropolis, by furnishing well-educated masters for Art Schools, who should embrace within the range of their tuition alike the young and the adult, the humble and the lofty, those who seek instruction only for money profit, and those who love Art from a higher motive; masters for schools which may become the means of diffusing a greater knowledge *of* and love *for* Art.

I believe in the desirability of doing this for the advantage of the country merely in a mercantile point of view, and that this object deserves the liberal support of the government and the nation from this cause.

But I believe, also, that the diffusion of Art knowledge and Art power may appeal to national support on other and higher grounds, and that its true value is not to be estimated by *tables* which are supposed to show "The progress of the nation."

To one in whose nature a deep and true love of Art is implanted, (and without this no one can be a true artist,) Art becomes almost a holy thing, something to be dedicated to noble aims, and not to be trailed in the mire and the dirt of mere displays of pomp and vanity; a something that should minister to the pleasures or purposes of the *soul*, and not merely play the agreeable to the senses.

By such an one the extension of these schools is viewed in a different manner; he dwells with hope upon the results they may have upon the general feeling for Art, and the love of its manifestations upon the people of this country. He believes that they are one step in the furtherance of that hope that will arrive at fruition when one of the noblest gifts of God shall be worthily devoted to His service, when the noble deeds and thoughts of the great and good men of all times, all countries, and of all faiths, may find worthy expositors and appreciating audiences; when in this our country, Art, standing noble and aloft before all men, drawing to itself the noblest intellects and the purest feelings, may appeal to all, and in a voice that shall find an universal echo in all hearts, say, it is my mission to speak to your souls through your senses—to cause your hearts to flame or melt, but always to noble ends; and to speak an universal and eloquent language only the more effectively to disseminate great deeds and noble thoughts.

COMMONPLACE BOOKS; WHY AND HOW TO KEEP THEM.

Quodcunque vides, scribe et describe, nunquam memoriæ fide.

BY PROF. JAMES DAVIE BUTLER, LL.D.

NOT long ago I was greeted by the following letter from Professor Park, the Andoverian patriarch: "My letter is to request that you will fill certain blanks in my memory. I recall a history, the greater part of which consists in blanks. That history is as follows (the blanks are represented between the brackets):

"When the editor of the Parisian [*Moniteur*?] learned that Napoleon had escaped from Elba he announced: "The [tiger] has got loose." When Napoleon arrived at the coast of France, the same paper announced: "The [tyrant] has reached [———?]" When he had come twenty miles nearer, the same paper announced: "The [enemy] has reached [———?]" When he had come twenty miles nearer still, the paper announced: "The [man] has reached [———?]" When he had come within forty miles of Paris the paper stated: "The [First Consul?] has arrived at [———?]" When he had come within twenty miles of the city, the paper announced: "The Emperor? has reached [———?]" When he had come within five miles, the paper said, "His Majesty? has reached [———?]" When he had entered the capital, the paper was triumphant and exclaimed: ["Vive l' Empereur!"]

"Now, it is indispensably necessary for me to know the epithets applied to Napoleon,—but I have forgotten them. It is also important for me to recall the stages of the Emperor's approximation. I believe that cities were mentioned. I have read the story somewhere, but, as I think, it cannot be found in Alison, Guizot, White, Bourrienne, Abbott, Scott, or Las Cases. If you are unable to fill up these blanks, or any of them, at least pray write me your version of the story."

The story seemed to have vanished like the fabulous fox, who ran into his hole and pulled in the hole after him; but, thanks to my habit of noting at least a reference to the topics of my reading, I was able, by return of mail, to supply Professor Park's desideratum.

The story as he had read it, I wrote him, ran thus: "March 9th — The Anthropophagus has quitted his den. March 10th — The Corsican Ogre has landed at Cape Juan. March 11th — The Tiger has arrived at Gap. March 12th — The Monster slept at Grenoble. March 13th — The Tyrant has passed through Lyons. March 14th — The Usurper is near Dijon, but the Burgundians have surrounded him. March 18th — Bonaparte is only sixty leagues from the capital, and has escaped his pursuers. March 19th — Bonaparte is advancing swiftly, but he will never enter Paris. March 20th — Bonaparte will to-morrow be under our ramparts. March 21 — The Emperor is at Fontainebleau. March 22 — His Imperial Majesty yesterday evening arrived at the Tuileries, amidst the joyful acclamations of his devoted subjects." Such was the story, as in an old magazine it had met the Professor's eye. In this form it was a British political squib. But, thanks to much ado about noting, I was also able to send my correspondent the veritable announcements of the Parisian *Journal des Debats* regarding Napoleon as he was approaching from Elba. In this paper of the 9th of March he is spoken of as "*the Poltroon of 1814.*" On the 15th he is told: "*Scourge of generations, thou shalt reign no more.*" On the 16th he is "*a Robespierre on horseback.*" On the 19th, "*the Adventurer from the Island of Corsica.*" But on the 21st we are told, "*the Emperor has pursued his triumphal course; the Emperor having found no other enemies than the miserable libels which were vainly scattered on his path.*"

Ability thus to teach my teacher, that is, to furnish him at once an illustration he had vainly sought for years, made me doubly glad that I had persevered through half a century, adding line upon line to my *Index Rerum*, *Nulla dies sine linea*. My faith increased in the maxim, *Qui scit ubi est scientia habenti est proximus*.

It was once my fortune to spend a morning in the study of John Quincy Adams, while it still remained just as he left it. I read many a title on the backs of books arrayed in long lines, and climbed the ladder to search on highest shelves for I knew not what of rich and rare. The printed books were ten thousand, but they were of small interest to me compared with a single square black chest, which was filled with the note-books of the President,—his life-blood treasured up for a life beyond life. By virtue of being well introduced, I was vouchsafed an hour's inspection of these manuscripts. The first I took up was written when the author was a boy of fifteen; the next, marked "rub-

bish," was an account of his journey, at the close of his administration, from Washington to Boston. Many a volume was written throughout with observations, thoughts, and feelings during more than half a century. Mrs. Adams told me that when her husband, Mr. Charles Francis Adams, took a journey he seemed to have no thought of books, or silver, or children; but always said: "Now, Mary, if the house takes fire, look out for this chest!" In that chest I saw the well-spring whence had flowed the speeches and published writings of the most active, versatile, and erudite of our chief magistrates, and could not doubt that Adams had inured himself to read and think "pen in hand," as a help to retain and fit for use whatever he acquired or excogitated. In this habit I detected, as I thought, the secret of that talent, so diversified and ready, which made men say of John Quincy Adams:

"Turn him to any cause of policy,
The Gordian knot of it he will unloose,
Familiar as his garter."

A similar habit of writing in connection with study, seems to me useful to every scholar who would make the most of himself, and, accordingly, I shall now set before you some uses, as they lie in my mind, of keeping what, for want of a better term, I will call a commonplace book.

But first permit me to state what I mean by keeping a commonplace book. Do I mean, as many do, copying the books we read, or extracts from them, or the indexes to them? Do I mean, merely or chiefly, copying of any sort? No, nothing of the kind.

Before the invention of printing Commonplace Books were properly composed of extracts. They were derived, oftentimes, from manuscripts which the writers never saw but once in their lives. Scores of classics are extant only in fragments copied by Stobæus and Photius. Indeed, as long as printed books were few and costly, — public libraries far between and hard to reach, — there was good reason for readers to copy long passages in favorite authors. But in our last quarter of the nineteenth century the occupation of the copying-maker of commonplace books is well nigh gone. Books good enough for the best are now cheap enough for the poorest. Halliwell-Phillipps buys books by the ton, tears out of each volume the fraction he finds suited to his purposes, and sells the remainder to paper makers. Most scholars cannot afford this luxury, but let those who must make extracts write them out in a book altogether separate from the note-book

I propose, in which all entries should be of telegraphic brevity. The motto of the writer in my commonplace book should be *Verbum sat*. Yet he should be scrupulous to specify his authorities for every statement. No beginner will be scrupulous enough in this regard, till he has regretted his negligence a hundred times. Forget not the judge who, when an advocate cried, "It is written thus and thus in the Book of Nature," interrupted his declamation, saying, "In what chapter and what verse?" But nowhere is there more need and more opportunity for brevity than in citing authorities. It is no small help in shortening citations, to write out on some of your blank pages, which you will insert by scores at the end of your book, a catalogue of the titles of those works to which you oftenest refer, and beside each title place the shortest abbreviation of it you can devise, and one you will employ in all your citations. In my note-book E. B. stands for *Encyclopædia Britannica*; I., *Encyclopædia Americana*; a., *Appleton's Cyclopædia*; x., the tenth edition of the *German Conversations-Lexicon*; R. G. W., *White's Shakespeare*, which I find it easier to refer to by pages rather than by act and scene. Thanks to contrivances of this sort the note-taker can save nine-tenths of his paper, and an equal proportion of his pains. An expert in short-hand can go further, abbreviating all his entries, till he literally crams the *Iliad* into a nut-shell.

But if a commonplace book does not consist in copying of any sort,—what is it, then?

My idea of a commonplace book is a blank volume in which you first set down the name of the first subject concerning which you purpose to speak, read, or write, or in which you feel special interest. Suppose the first topic to be commonplace books themselves. Under this heading you will note the names of scholars who have made that kind of book, or have advised to make it, the volume and page where you find such facts. You will add, from time to time, hints at reasons for (or against) the habit of commonplacing. Nor will you fail to record catchwords which recall new applications of old sayings and illustrations of the matter in hand. You will write out, under the same heading, those epigrammatic ideas which resemble the honey-bee—short, sweet, and with a sting at the end, and you will cage in black and white those magic phrases which no man can improve, stamped in nature's mint of ecstasy, "what all have thought, but none so well expressed,"—the immortal part of books,—common-sense sharpened till it shines.

“Jewels five words long,
That on the stretched forefinger of all time
Sparkle forever.”

After due practice, you will learn to store into half a page — as in a “box where sweets compacted lie,” or as in the purse of Peter Schlemihl — the materials on any theme which it costs you a month to master, fortuitous discoveries in widely devious paths of life and literature, and, since all jewels are small, you will there cork up quintessences which, at your bidding, will expand almost of themselves into an hour’s lecture, — or, indeed, into one two hours long, could you find hearers who would tolerate such prolixity.

“And in such indexes, although small pricks
To their subsequent volumes, there is seen
The baby figure of the giant mass
Of things to come at large.” — *Troil.* I., 3, 343.

In a similar style to that I have described would I have you proceed with topic after topic, as, “hiving wisdom with each studious year,” you shall admit one after another into your book of record, as into its honey-cell. Concerning arrangement, my habit is to assign an equal number of pages to each letter of the alphabet, and that in alphabetical order; you can thus turn to each topic as easily as to the words in a dictionary. If the space allotted to any letter becomes full, though it will not so soon as you imagine, you will always see vacant space under other letters, — vacancies provoking you to fill them as irresistibly as vacant houses provoke boys to break their windows. Many scholars, as they go on in life, will make two other books, one devoted to their profession, and the other to that specialty into which they sally on excursions from their home-field. But I am no stickler for forms. I am so far from it that I am ready to say, altering Pope a little,

“For *forms* of record-books let fools contest,
Whate’er is best *administered* is best.”

How best to keep such a book you will learn by keeping it. Refuse to begin till you ascertain that best mode, and you will procrastinate till he leaps into the river who will not touch water till he can swim, or till she eats tomatoes who will not taste them till she likes them.

We learn to walk by walking, and to talk by talking. It is an everyday remark that every tourist, when returning from his first European tour, feels that he has just learned how to travel,

“*Vires acquirit eundo.*” But the aim of commonplacing is that a scholar may secure the richest spoils,—*spolia opima*,—not merely from travel, but from all life,—solitude, society, books, convocations, meditations, observations. To compass this high aim,—yes, to approximate to such a consummation, must be the last result of many a still-baffled, still-renewed endeavor. The book in which such struggles are chronicled, will be useful just in proportion as it is used. *Ipsaque fit utilis usu.* The hedge-hog, according to Ælian, when he enters a vineyard, shakes the vines, and then, rolling himself on the grapes that strew the ground, carries off one of them on every one of his countless spines. In all fields of study the scrap-seeker becomes more and more a hedge-hog, still multiplying his prehensile tentacula. To apprehend thus, draws us a profit from all things we see.

It is well to have at the close of a Note-book a number of blank leaves, where favorite topics, crowded out of the body of the volume, can have room for multitudinous references, as well as long lists of sub-headings and memorial words. Cross-references to these supplementary pages should be made from each topic where it occurs in its alphabetical order. Every such topic will be most readily found, if also set down in an index at the end of the book.

However laconic each single memorandum may be, the collective host, like hailstones, or like leaves in Vallombrosa, will cover a broad expanse. Every faithful writer's book will need to be interleaved again and again. But, however carefully used, it will need rebinding as often as interleaving. My own tome of trivial fond records that daily observation copied there, long ago became thicker than Webster unabridged.

Will you forget your topics? Seldom, if you remember anything, for they ought to be—I have presupposed them to be—the things you feel most interest in, and oftenest think of,—places so common that they are as well known to you as Boston Common is to Bostonians. When you are used to hang your hat on a particular peg, you do not often forget where that peg is. How many men forget the location of the bank where they have laid up all their savings? Hide a man's spectacles in his Bible, how long will they remain unfound if his habits are such as they ought to be? But one subject runs into another. All the better. Make mutual references—clues of Ariadne—to guide you from one co-ordinate to another, as well as from genus to species, and from species to genus. All truths are interdependent; linked to each other by golden chains.

The term ‘commonplaces’ is at least as old as Cicero. The word “places” signifies the points on which arguments rest, or from which they are deduced. They are called “common,” because they afford considerations bearing on both sides of a question, or on more than one question. To ladies I may say they are filling for the scholar’s scrap-bag, where nothing is in the way and nothing out of the way.

It is sometimes objected that commonplacing will cost too much time. But you know time spares nothing which has not cost time; and then I insist that you condense what you write, till a single entry will find ample room in a single line. Thus your task will become like a clock’s — only one tick at a time. Doubtless in naming topics, and in arranging collections or creations, a beginner will be perplexed; but what veritable study is not perplexing? and that the more, the more it is worth our best energies?

But I proceed to state reasons for holding the keeping of a commonplace book an important element in liberal culture. Indeed, I hope to show the habit I inculcate, to be of use to every man, somewhat as the post-office is. That institution, like the spring-time, leaving no corner of the land untouched, is open to all alike. It is not of equal value to all men, but it blesses each just in proportion as he makes proof of its facilities. For one I should be disposed to draw up such a book, simply because such has been the custom of so many an eminent scholar. Regarding the author of *Hudibras*, Johnson remarks: “Butler had a commonplace book, in which he repositied such similitudes, allusions, assemblages, or inferences, as occasion prompted or inclination produced, those thoughts which were generated in his own mind, and might be applied to some future purpose.” Johnson himself had provided a volume of hints before he wrote the first number of his *Rambler*; nor did Addison issue one of his *Spectators*, till he had filled three folios with materials. It was as Cervantes journeyed from town to town, collecting the king’s taxes, that he noted down those bits of inn and wayside life and character that abound in the pages of *Don Quixote*. I might occupy many pages with similar testimonies respecting Euripides, Dante, Alfred, Ben Jonson, Milton, Hobbes, Bentley, Bacon, Locke, Swift, Warburton, Gibbon, Voltaire, Coleridge, Southey, Wilberforce, Sir Matthew Hale, Sir William Jones, Richter, Flaxmann, Macaulay, Franklin, Edwards, Rush, Hawthorne, Emerson, and others, giants in culture, testimonies evincing that no

printed books have done so much for their development as blank books have done.

But I proceed to show that the ripest scholars recommend the practice by precept, no less than by example. What says Shakespeare?

‘Look! what thy memory cannot contain,
Commit to these waste blanks.’

What says Bacon? “I hold the entry of commonplaces,” says he, “to be a matter of great use and essence in studying, as that which assureth fullness of invention, and contracteth judgment to strength. A man would do well to carry a pencil in his pocket, and write down the thoughts of the moment. Those that come unsought for are generally the most valuable, and should be secured because they seldom return. Therefore let diaries be brought into use.” What says Franklin? “I would advise you,” his words are, “to read with a pen in your hand, and enter in a book hints of what you find that is curious or may be useful.” What says Locke? He published the plan of a note-book, according to a method he had himself tried a quarter of a century. What say Cicero and Aristotle, the greatest masters, the one of oratorical, and the other of philosophical, reasoning? They each wrote a book entitled “Topics,” consisting of what I would have you fill yours with. If there be any lawyer here, I would remind him of the last note of Lord Coke on Littleton, which is: “I had once intended, for the ease of our student, to have made a table (that is an index) of these Institutes; but when I considered that tables are most profitable to them that make them, I have left that work to every studious reader.”

In the Kensington museum few manuscripts are more prized than two pocketbooks of Leonardo da Vinci. They measure $3\frac{1}{2}$ by $2\frac{1}{2}$ inches, and contain drawings preparatory for his Last Supper. They are such *vade mecums* as he advised his scholars to have always about them. A similar note-book, sketched by the boy Raphael, is treasured by the Venetian Academy. In the judgment of Bishop Bull and other commentators, the “parchments” about which St. Paul was more concerned than for his books or his cloak, were his note-books. (II Tim. iv., 13.)

Besides all this, those who have a commonplace against commonplacing, like sham temperance men, privately practice what they publicly decry. The secret history of celebrated speakers, as Sheridan, shows that they prepare what are called *impromptus* beforehand. Whenever a man uncorks champagne for the delec-

tation of congregated friends, who does not know that some one has first bottled it up? Other considerations point the same way with the advice and practice of genuine scholars. Thus, whoever travels is bidden to write; is told that the poorest pencil is better than the best memory, and that half a word fixed on the spot is worth a cartload of recollections. But why record impressions when we move more than when we are at rest, especially as we travel no more than one month in the year? Why gather the gleanings and leave the harvest to rot?

Again, you believe in book-keeping. Every man keeps accounts. Why make no note of mental advancement, as well as of material? Memory is not enough for lucre you love too well; is it, then, for the true riches of which you are prone to make light? Why keep no record of what you may expect from a doctrine, as well as from a debtor? Be yours a ledger for that merchandise that is better than rubies, and let it be posted every night.

Let us next consider whether a note-book, kept as I have proposed, is a detriment or a help to memory. How do we remember? Metaphysicians all say, in proportion as we attend. But while reading, selecting, arranging, and writing an idea, we must attend to it more than while reading or thinking alone. Four are more than one. Again, memory is aided by order. But the recorder sets in order; and a writer so old that he has become new again, tells us—and we knew it before—that “we can carry twice more weight trussed up in bundles than when it lies flapping about our shoulders.” In memory, as well as any other box, a good packer will stow more than a poor one. Had not the signers of the Declaration of our Independence hung together, they would have been hanged separate, and one by one. So fares it with the facts we learn. So long as they hang together they are safe, while, devoid of orderly connection, they perish on as high a scaffold as Haman’s.

Memory is also assisted whenever we associate a new thing with what is known to us and dear to us. “How old are you, my boy?” asked Queen Elizabeth of Francis Bacon. The answer was: “Just two years younger than your majesty’s blessed reign.” That boy’s age, do you suppose Queen Bess could ever forget it? Now your topics ought to be—I have supposed them to be—each as well known to you, and as dear, as her coronation to a queen; and what you are to aim at is to group all things relevant around these topics. The more you so do the more will you incorporate with yourself of genuine memoranda—things

that must be remembered till a maid forgets her ornaments, and a bride her attire. According to my experience, every heading entered in an *index rerum* is as serviceable as the knot a seamstress ties in the end of her thread. It has kept many a stitch from slipping through.

“Time but the impression stronger makes,
As streams their channels deeper wear.”

Besides, every new head under which you class a fact is a new handle by which to hold it, and a new hilt with which to wield it. Moreover, the more we examine why a thing is, the better we remember, and I have advised to record the reasons of things ; for a principle, like the silver cord of Æolus, confines where you would have them a legion of facts, which, otherwise, like enfranchised winds, scatter beyond control. In every view, then, the device I speak of will make you retain the contents of those books you have borrowed as easily as you now keep those borrowed books. It is, then, the best mnemonics. Its grasp is as tenacious as the hundred hands of Briareus.

Again, through writing such memoranda as I recommend, you will render your knowledge exact. Lest you blot your book, you will look twice before putting pen to paper, to see whether your first impression was correct ; and often discover that it was not, though, but for your purpose to write, it would have always seemed so, and you would have gone on in a blunder forever.

“Thoughts disentangle passing o’er the pen.”

Or, writing is to an idea what a carpenter’s vise is to a block of wood ; it holds it fast till you can fashion it into shape. Then whatever is written abides, like peaches in an air-tight can, in its first freshness ; while whatever is unwritten fades,—ay, dwindles like an onion when its coats are stripped off one after another ; or like King George the Fourth, whom Thackeray describes as all bow and grin, padding and under waistcoats, and then nothing. The unwritten is your shadow in the glass ; the written is your photograph. The one is cobweb, the other cord of silk. Hence what you have forgotten, yet remember that you wrote, is good evidence in court ; so that a merchant may swear to his book-account. *Litera scripta manet.*

Nor can anyone keep such a book as I have in view without heightening mental activity. The more you mark down, the more will you remark what would otherwise escape notice. Whenever and wherever you read, converse, observe, or reflect,

you will be asking, "What can I gather for my garner of notes?" Your studies will lead you like the bee into many a field; you will tax them all for one hive, and, like the bee when honey-laden, you will steer a bee-line to that hive. You cannot write the hundredth part of what passes before your mind's eye. You are hence enforced to think through what you see, till you pluck out the heart of each mystery. Wheat in the straw is bulky; you must thresh before you put it in your sack. When you have seized an idea worth saving, you are in doubt to which of your multitudinous topics it belongs as the niche it was ordained to fill. That doubt is precious; for it drives you to think, that is, to threshing your mind. What seems that niche turns out a false position. At length you classify your idea under a head to which it has some relation. While so doing, or afterwards, you perceive that it is more relevant to another, or to half a dozen others, or perhaps to some topic that hitherto has had no name to live in your treasury. Such a suggestive fact will sometimes serenade you as sweetly as any flute till the night shall be filled with music. On the other hand, a fact unclassified, that is *dislocated* like a bone out of joint, will leave you little ease till you have put it in place.

Though you be pains-taking, you will often fail in many fields to find any fruit you can gather into your garner, and many questions will come up regarding which you get no light from the luminary where you have stored rays from all your studies. Your attempts at following Bacon's advice to make collections preparative as helps to your intellectual powers seem failures. Whatever you have sought out and thought out, as you note it, shrinks to a little measure. You are constrained to exclaim,

"When to the sessions of sweet silent thought
I summon up remembrance of things past,
I sigh the lack of many a thing I sought;
I in the world am like a drop of water
That in the ocean seeks another drop,
But failing there to find his fellow forth,
Unseen, inquisitive, confounds himself."

When ignorance bursts upon you, you say you never can learn anything, like Antaeus thrown down by Hercules; yet like that giant you spring up from the earth invigorated by its humbling touch. Surprised that you have been ignorant, you are too much mortified to continue so; your range of inquiry widens; your mind awakens to newness of life,—ay, "to moments worth living years for." Thus your memoranda become a fault-book

for self-correction. The reason men know so little is that they know not how little that little is. Hence says the epigram to the ignoramus :

“Thou may'st of double ignorance boast;
Thou knowest not that thou nothing know'st.”

A young friend who was about to read Hume's England once asked me how to read. I said : “Glean some keepsake from every page for your note-book. If you come to the bottom of a page, yet have caught nothing, look on your reading as thus far dropping buckets into empty wells, or brooding on eggs of chalk.” Meeting him a month afterward, I inquired whether he had followed my advice. He said he did till, turning to the end of the last volume, he espied there a better index than he could make, and so had laid away his commonplace book on a high shelf. My answer to him was : “No matter how much information the printed index gives, the inspiration which making one of your own would breathe into you it cannot give.” Another's index carries you a long way ; your own would strengthen you to run. Another's is dainties ; your own, exercise for giving appetite. Another's index is the mouse which the old cat throws on the floor half dead for her kitten to play with ; your own resembles that kitten catching the mouse herself. Besides, the printed index—what is it ? It is the key to what struck some other man as he read Hume. Yours, had you done as I advised, would have shown what struck you—yourself, and not another, and therefore would be worth more to you than a better one from the hand of another.

“Why,” I continued, “would you rather travel through Italy than peruse the best book ever penned by tourist there ? Not because you would see more than that tourist has described,—still less because you could describe as well,—but because, while his book shows you his impressions, a tour would stamp you with impressions all your own. On the same principle, the poorest notes drawn up by myself are more improving to me than the best ones composed by any one else can be. Each woman's own piece-bag—how much more is it worth to her than any other woman's can be ! Why is it ? Because it is best suited to furnish repairs for the garments of her own household. It matches them. For the self-same reason your mental piece-bag is beyond all others of value for your own mind. It matches it. If I may reason in Hibernian style, I will call your

own notes (that are poor) the moon and another's (that are good) the sun. They surely cannot differ more than that. But, said the Irishman, the moon is worth more than the sun; for the moon gives us light in the dark when we need it, while the sun shines only by day, when we have a plenty already."

"All others, says Pat, in the sun may delight;
But for the fair moon my praise shall be steady.
She shines in the night, when we need rays of light;
He only by day, when we've too much already."

On reflection, I seem to have pointed out to my reader of Hume a path more sought for, alas, than the path to heaven, and as seldom found—the path to originality. My student of Hume would have been original so far as he made his own observations on what he read; while relying on another's, he was a borrower, saying, "Give me of your oil; for my lamp has gone out."

Why do we call Humboldt original? Others have seen whatever he saw, read whatever he read, and are not original. His peculiarity was that he caught more with the pen of what passed before his eye, and then more than others marshaled the chaos, *Rudis indigestaque moles*, into a cosmos—one whole consolidated of parts mutually related—a system where jagged atoms fit like smooth mosaic—*e pluribus unum*. Through thus spending ten years in tracing relations to one year in travel, Humboldt wrote his superscription on what he learned. We call that the best gift which has in it the most of the giver. Hence the pricelessness of the tears with which Mary washed the feet of our Lord. What, then, is the best writing? Clearly that which has in it most of the writer.

"Brightest and best there loves and graces shine
Where all the author lives in every line."

Such a one has no need to write his name on his productions. He marks them all over. There are few Humboldts, either in nature, training, or facilities for research; yet many may pursue Humboldt's method; and so far as they thus classify and illustrate what they acquire, they develop not the originality of Humboldt, but whatever there is in them of originality. The mistake of most lies in throwing away what is peculiar to them,—“nature's livery,”—while they save what they have in common with others. Don't you think so? They throw away the blush that nature's own sweet and cunning hand lays on, and then covet the hypocritical rouge they buy in Paris; so that, like houses newly coated with white lead, they need to be labeled: “Look out for paint!”

Tom Corwin, having consented to give a commencement address at Yale College, wrote such a speech as another man would write, and undertook to deliver it according to elocutionary rules. He soon saw that he was making a failure, stopped, and said: "I can do nothing as an Eastern rhetorician, let me speak as a Western wagoner." He then burst out in his own vein, and showed himself a Samson, who brought down the house as though it were the temple of Dagon. You, too, shall be somebody, if you had as lief not be at all as not to be yourself. You will be yourself in proportion as you note and classify, according to your own laws of association, whatever you observe.

Let it not be forgotten that just here,—in the *arrangement* of the material accumulated for common placing, lies the grand difficulty of the achievement. *Hoc opus, hic labor est.* You need to consider under what heads each particular fact, or thought, or observation philosophically falls as proof, illustration, or embellishment, and set it down under such heads. You thus introduce method into the madness of sibylline leaves, and you train yourself to methodical thought, the art of thinking. But this is not enough. Such are your laws of association and memory, or such changes pass over them, that your topics and material have often in your mind no connection, and neither of them makes you think of the other. You will recall that you have noted down various matters, but you look for them in vain under all the heads to which you now think them relevant. When you at last discover any of these lost entries, you must then make cross-references to them from all the heads under which you failed to find them, that you may not again grope for them to no purpose. In fact, that classification of your gatherings which is best philosophically may not be by any means best for you, because not best facilitating your laying your hand on the treasure you have laid up. In this view, and only thus, can I apologize for Dr. Todd's illustrations in the preface to his *Index Rerum*. Thus, if we wish in his system of note-taking to learn something about "Christianity," we must look for it under the head *Importance*. The "nature of God" he treats under the title *Hiero*, and matter about "conscience" is brought in under the heading *Horrors*. A distribution of savings for enabling to lock them up and unlock them that is absurd for you may be the best possible for me. The worse for you, the better for me. A title, also, which to-day seems to you utterly meaningless, when ten years have passed over you may then appear to you yourself to be trans-

formed, and rejoicing to be the silken line, on which your pearls united shine.

In struggles to hold fast individuality you will trace the relations and correlations of what you learn, and piece out by common sense what you cull by the five senses. Through such endeavors facts that once seemed isolated will shoot out roots and ramifications, interweaving them in one web. Viewed thus in their relations, trifles come to resemble the widow's mites, which shall jingle in the treasury of the Lord to the end of the world. But what is a fact before you consider its relations? You are puzzled what to do with it, as much as the postmaster is where to send a letter addressed, "John Smith, Valley of the Mississippi."

On the other hand, when you scrutinize its relations, many a fact seems contrived on purpose to pay a treble debt, like that old wall in Aphek, which, falling on Benhadad's soldiers, gave them all-at-once not only death, but burial, and gravestones into the bargain. Every fact once articulated may do yeoman service as an illustration to simplify, dignify, or adorn ideas for which you have long and vainly sought such an auxiliary. Of all faculties, none is more important than that of illustration; reasons are pillars which sustain the roof and gallery, but similitudes are windows and chandeliers which afford light. Happy the man who hath his quiver full of them.

"We also know an apt similitude
Will on the curious fancy more intrude,
And will stick faster in the heart and head
Than things from similes not borrowed."

Many an illustration is likewise an argument. Witness the stories of Abraham Lincoln picked up in log-cabins, but good enough for the cabinet at the White House. For want of illustrations many a speech, otherwise good, is as monotonous as that picture of the Israelites crossing the Red Sea, which was all one dead wall, or barn door, of Spanish brown. When the painter was asked, "Where are the Hebrews?" he said: "They have all passed over," and when the question was, "Where are the hosts of Pharaoh?" "Why, they," his answer was, "they are all drowned." All the people who would have given human interest to the painting had gone, either over, or under,—in Western parlance, "gone up."

Men wonder that some writers are rich in illustrations that illuminate their ideas, giving to what is one like the ocean, its

vast variety of waves. They might as well wonder that certain men's drafts are honored at a bank. The secret is in both cases the same. He who would draw out must first make deposits. The munificence of the Boston Lawrences, who has not heard of it? How could they be thus generous? Not without petty layings up more than you could number. I have been in their factories. There were bobbins by the million, from which threads were unwinding. Over each I observed a little cap cunningly catching every particle of cotton that flew off in the process, and tons, the foreman told me, are thus saved. Would you have much to lay out? you must lay up much. If your illustrations are original with you, they must often be homely, because most men are mostly keepers at home. But exactly because they are homely, they all the more come home to what all men feel. They fly over nobody's head, but hit just in the heart. "To accumulate such a mass of sentiments as we see in *Hudibras*, at the call of accidental desire or sudden necessity," Johnson declares "beyond the power of any mind, however active and comprehensive." You should sooner expect spirits from the vasty deep to come at your call, than that many of the illustrations pertinent to any theme can be rallied to its standard in one single day. Yet whoso will, can enlist such recruits one by one.

Take, for instance, Tell shooting at the apple on the head of his boy. I have referred to this story as an illustration under some sixteen heads in my *index rerum*, while, but for my so seizing it by the forelock, that incident might fail to occur to me even once during my writing a lecture on each of those sixteen topics. Thus, the exploit of the Swiss archer suggested to me, in his boy, filial trustfulness; as to Gessler, it showed cruelty, tyranny, and the danger that irresponsible power will be abused; as to Tell himself, I marked not only skill, that all skill is of use, often of higher use than can be anticipated, but how men are roused to retaliate, that fame is dear-bought, that emergencies drive to achievements, and that what seems a curse may prove a blessing. I further set down this miracle of archery as shedding light on the way that sympathy, hatred, fear, admiration, and emulation are excited,—as exemplifying the dependence of great events on small causes,—as reminding historians of parallels among Danes and Greeks, as leading skeptics to question the evidence of its reality, and, since such is the law of local association constraining the pilgrim to Altorf, in whose ears still twangs the cord, "dread bounding, sounding," from the Switzer's bow, to exclaim:

“Who that walks where men of other days
Have wrought with god-like arm their deeds of praise,
Feels not the spirit of the place control,
Exalt, and elevate his laboring soul?”

Some of your gleanings will thus enrich you with a galaxy of illustrations bright as the stars in our national flag,—or like stars in the sky, giving light to other things, which, without them, could not be seen. Other trifles you pick up, coming as pat for your purpose as a square man for a square corner, or as Lincoln’s pegs for his holes, when he sent Butler to New Orleans and Grant to Vicksburg, will correct false notions you have yourself imbibed, or those into which others have fallen. They will thus prove snuffers to prune and brighten the candle of your mind.

Since it cannot be foreseen which of your acquisitions shall thus become most useful, you will become a snapper up of trifles, which most neglect as they do pins in their pathway, or poor relations. You will then scorn no key, you know not what locks it may open,—and no needle, you know not how much pointless thread it may utilize.

“A spark from this or t’ other caught
May kindle, quick as thought,
A glorious bonfire up in you.

Let me give you a specimen. I once read, in a Connecticut newspaper, the following advertisement:

“TWENTY DOLLARS REWARD.—Stolen from me, the subscriber, in the time of action, the sixteenth of August last, a Brown Mare, five years old, had a star in her forehead. Also a doe-skin seated saddle, blue housing, trimmed with white, and a curbed bridle. It is earnestly requested of all committees of safety, and others in authority, to exert themselves to recover said thief and mare, so that he may be brought to justice and the mare brought to me; and the person, whoever he be, shall receive the above reward for both, and for the mare alone one-half that sum. How scandalous, how disgraceful and ignominious must it appear to all friendly and generous souls, to have such sly, artful, designing villains enter into the field of action in order to pillage, pilfer, and plunder from their brethren when engaged in battle!

JOHN STARK, B.D.G.”

“Bennington, 11th Sept., 1777.

This morsel, picked from the worm-holes of long-vanished days, seemed worthy of a note considered simply as a characteristic utterance of the hero who broke Burgoyne’s left wing. The

promise of ten dollars for a general's horse was also significant. The smallness of the reward showed how early horses were cheap in Vermont, and how scarce money had become, since Stark was so far from offering, like King Richard, a kingdom for a horse. Who, also, could be blind to Stark's patriotism, oozing out even in a call to stop a thief, and flaying as with scalping-knife the tories of his time. But a year afterward, being invited to address the Vermont Legislature when they received from Congress the cannon taken at Bennington, I looked up the reference in my savings bank of old odd ends, quoted the advertisement in my speech, and found it a spice island, a veritable oasis in the desert of details over which I was obliged to lead my legislative caravan. Through shaking my hearers with a laugh, it won a hearing for my history. At the end of a string of tame statistics it resounded as, before the railroad era, we used to hear the snapper at the end of a stage-driver's whip-lash when he entered the village with good news.

Nor was this all. The same old scrap enabled me to correct a blunder into which Headley, Everett, Irving, Spencer, and, I believe, every other historian, had fallen. Thus, Headley says, "Stark's horse sunk under him." Everett writes, "The general's horse was killed in the action." Irving's words are, "The veteran had a horse shot under him." They were all led to a false inference concerning this sinking, killing, and shooting, by Stark's writing in the postscript of a letter these words: "I lost my horse in the action." How he lost him we have seen by his advertisement.

Nor is this half; for, on my writing to Mr. Everett, he acknowledged the justice of this correction, and paid the reward offered for the horse, in the shape of books for the library of my parish. Seldom are debts for "dead horses" collected so successfully, especially when they have been a century outlawed. Had all the authors, whose mistakes I had rectified, been as liberal as Everett, I should have made my fortune. Dr. Sparks subsequently made my finding the text for a discourse on the sources of historical error. Mr. Everett also used it at a war meeting in New York. Thus a mouse brought forth a mountain, and Jonah swallowed a whale. Who shall say that this antediluvian newspaper, from the dust of old oblivion raked, has not new uses yet to be revealed? Why, I am using it now, this minute. Often used, it is not yet used up, or a squeezed orange. All editors and merchants will confess that these results demonstrate

that it is a good thing to advertise — that, in fact, there are millions in it — that advertising pays.

My discovery in the paper from the Nutmeg State may also serve as a proof that we sometimes espy what we need in places where no one would anticipate that it could come to light. An Englishman, fighting a duel with a Frenchman in a dark room, first received the fire of his antagonist, and then,—as he escaped unwounded,—not wishing to hit his adversary, shot his own pistol up the chimney. Notwithstanding, he brought down the Frenchman, who had no sooner discharged his piece than he softly slipped up from the fireplace as into a niche of safety. The man of notes repeats the experience of that Briton, and brings down many a Frenchman from hiding places where no one would look for a prize. Far as was that Englishman from expecting to do execution, when he snapped his revolver up a flue, so far was I, on taking up the Connecticut Courant, from hope of exhuming such an historical gem as I now seem to have there detected. No matter how hackneyed a subject has become, it still abounds in treasure-trove, good things not yet well applied, so that if you apply them fitly men will call you original. What says Irving? His words are: “Most of the traits that give individuality to Columbus in my biography of him, were gathered from slightly-mentioned facts in his journal, letters, etc., which had remained almost unnoticed by former writers.” Brightest blazes are lit up by unexpected sparks.

Proofs similar crowd upon me,—that we should spurn no part of knowledge, but gather all fragments since the least may prove in union with the greatest; and the moment it is so proved, what before was the charcoal of an old newspaper transforms to a diamond, bright as a boy wishes he could give his first love, or as she wishes might be given her,—with many faces, each radiating its own lustre. Some smile at this figure as sentimental. For such stoics let me derive one from our barn-yard fowls. There is no nutriment in gravel, and so it at first seems silly for a hen to swallow it. But it seems so no longer when once we learn that every grain of it adds grit to her gizzard.

The custom of commonplacing after the fashion which has now been proposed, is favorable to endless *growth* in knowledge. Its reservoir is never full, but always has room for more light, and is expectant of more like the Pilgrim pastor, who sent forth the colony of conscience to plant Plymouth. It holds knowledge, as it were, in solution, while treatises written out, and still

more printed, precipitate it in cast-iron rigidity. Accordingly, Bacon warns against "the over early and peremptory reduction of knowledge into arts and methods, from which time sciences receive small augmentation. As young men, when they knit and shape perfectly, do seldom grow to a further stature, so knowledge while it is in aphorisms and observations, is in growth, but when it once is comprehended in exact methods, it may perchance be further polished and illustrated, and accommodated for use and practice, but it increaseth no more in bulk and substance." Vertot undertook to describe the siege of Rhodes, and sent to Italian archives for unknown details. Not receiving them so soon as he expected, making brick without straw, he drew on imagination for facts, and published his book. When the information he desired reached him, he would not look at the papers, exclaiming, "My siege is done!" *Mon siège est fait!* But the note-book never outgrows the era of inclusive hospitality. It is a sponge never too full to be bibulous and receptive of more.

In setting down what you know on any topic you are confronted with the horizon of ignorance which hems in the circle of your knowledge. Your curiosity is roused, and you are stimulated to wider research, broadening down from precedent to precedent. You become what Plato defines as the ideal man—"a hunter of truth." Your energies are tasked, and hence trained, like a student who must fill out an outline map, or experiment in a laboratory. You learn that pursuit is more than possession, that pursuit gives value to possession, and that fruit which falls without shaking is too mellow for you. Manna gathered by your own labor you perceive to be both sweeter and healthier than any dainties set before you by servitors. Sounding your own dark and devious way through a wilderness of exploration, like the oriental Magi when pilgrims to Bethlehem, how you despise travelers in Cook's personally conducted tours, always in leading-strings—seeing many things but observing nothing,—ever learning, and never able to come to knowledge. Search is an alchemy which transmutes the obstacles to its progress as wondrously as the oyster turns the gravel which galls it to a pearl.

Moreover, whoever will enter minutiae in such a record as I urge, will find unexpected uses in refuse and will save what turns out diamond-dust, like my note on French views of Napoleon approaching from Elba, and what he otherwise would have thrown away before its value was suspected; as the first papyrus rolls

exhumed in Herculaneum were destroyed, being mistaken for charred sticks; and as, in darker ages, many an algebra was burned before it was dreamed that the sign plus might not be popish, and many a geometry was burned before it was ascertained that a circle might be something else than a conjurer's ring.

“The cunning workman never doth refuse
The meanest tool that he may chance to use.”

It is true, the legion of the lazy will make light of you as zealously affected in trifles. But they know not “how poor an instrument can do a noble deed,” and resemble the lookers-on in a Shaker meeting, who said to one of the dancers, “Friend, you have forgotten the text that ‘bodily exercise profiteth little.’” His answer was, “Why, strangers, that ‘little’ is what I am after,” and pushed on in his saltatory gyrations. Be yours his spirit, and you will catch up knowledge as tirelessly as your clock picks up every crumb of time. Many fail when a trifle more persistence would fix in them a habit which would perpetuate itself. A certain man gave as his excuse for not reading the Bible, that its words were too hard, and mentioned as an instance the word “so-met-i-mes,” in the text, “Ye who so-met-i-mes were afar off.” If he had looked but a little longer his mountain of difficulty would have dwindled to a mole-hill, for in the quadrisyllabic stranger “so-met-i-mes” he would have recognized his old familiar friend “sometimes.”

What more valueless than autumnal leaves? Yet half a dozen of them from a maple in Massachusetts were carried abroad in her herbal by the wife of our minister in London. As her husband's salary would only pay his rent, and he had no star-routes, or post-traderships to sell, she felt it a duty to economize. Accordingly, having, like Miss Flora McFlimsy, nothing to wear at a court ball, she put some of those leaves in her hair. Gorgeous beyond hues known to European forests, they eclipsed jewels; and the result is, that similar gems from the sugar-tree have been exported every year since. A wreath of them sent by New York ladies to the crown-princess of Prussia was accepted with thanks. As the lady's herbal to the leaves of the maple, such is the book I propose to your native thoughts — often trodden under foot, yet worthy to stand before kings.

“Since that a pearl may in a toad's head dwell,
And may be found, too, in an oyster shell,
What our contempts do oftentimes hurl from us
We wish it ours again.”

Not only is knowledge power ; but the more we ken, the more we can. A king is etymologically, according to Carlyle, he who kens the most — the kenning man by way of eminence. There is a proverb, "Keep a thing for seven years, and you will find a use for it." Long before that time you will utilize most acquisitions. Some of them, however, like the century plant, will not bring fruit to perfection till the close of a still longer cycle. For ages the kite was only a boy's plaything. How long before it drew down lightning ! how much longer before it drew a bridge over Niagara ! When Franklin admired the first balloon that rose to the clouds, he was asked by some *nil admirari* utilitarian, "What's the use of this puff-ball ?" His answer was, "What's the use of your new born baby ? It may become a man ?" Already has the fate of battles hung in the scale of æronautics, but it has not yet unfolded its century flower. In general, the longer fuel seasons before you burn it, the easier it kindles.

In keeping a daily note-book one unawares writes his own autobiography.

"If you would know what a man is," says some one, "look at his account-book." You will there discover how he makes his money, and how he spends it, how far he is honest and generous, how far selfish, or a cheat. A man's private letters have also always been held to show him off his guard, and hence in his true nature. Equally unconscious with the biography in account-book and correspondence, is that which grows up in a man's note-book, — but the former is mainly moral and the latter mental. The note-book shows his intellectual stages of evolution, their genesis and exodus, in continuity and concatenation.

An old man, like President Adams, turning over his Index Rerum, beholds his whole intellectual life unrolled as on a map from "that other me in the back-ground," and the elastic gristle of boyhood to the rheumatic stiffness of age. What books, prejudices, predilections, swayed him at each era, — what trophies destroyed his repose, — is at once apparent. Changes in taste, often very gradual, — influences of teachers and comrades, — now and then an epoch-making inspiration, — contradictory gatherings on favorite themes, — how he investigated, — rambles into fresh fields and pastures new, all are betrayed by notes which are tell-tales or photographs to the sensitized writer, though of no significance to an outsider. The very hand-writing, to one who reads between the lines, is full of meaning. A notable experience of the following sort has frequently been mine. I

meet with some fact or thought which strikes me as new, or at least capable of some new use or application, and that perhaps under several heads, in my commonplace book. On turning to those heads, however, I find it already noted down, sometimes at every place where I purposed to write it. In such cases I gain a resurrection of myself — of mental movements from which I had been cut off as totally as though they had occurred in a pre-existent state. My noting adds to my personal identity, which might otherwise lose as the Greek debtor pretended to who, when dunned, said, "He who contracted the debt was I, but he is not now." But he who gathers himself together will not forget himself.

My subject grows upon me so that I can only allude to other utilities. Nothing is better adapted than the practice I advocate to keep an object for which to read, talk, observe, and think before your mind, not merely on the eve of debate, but always and on many a theme, when you sit in the house and when you walk by the way. Why do we praise the bee more than the fly, when both are equally busy? The bee has an object, the fly none. How suggestive is the muleteer's maxim, "A blind mule will die, because he don't know where to kick." The importance of a mark to aim at he only can appreciate who feels that

"Unless to some particular end designed,
Reading is but a specious trifling of the mind;
And then, like ill-digested food,
To humors turns, and not to blood."

But the more you read with the heart, the more will you learn by heart.

"The sweat of industry would dry and die,
But for the end it works to."

Through keeping a book of topics, you will be led to read also by topics, and not by volumes. He only who has formed this habit, and is always studying some subject, is master of books, instead of being mastered by them. Others are vagabonds; he is a traveler. He can mentalize what others only memorize. Such a one's library (like that of Daniel Webster as I saw it in Marshfield while still left as in his lifetime) will be largely composed of indexes, encyclopaedias, and "all the dictionaries and contractions that ever were heard of" — books not so much to be read as to be referred to whenever curiosity is keen — books straightway supplying present demand, and guiding to the standards in each specialty. Consulting should be like going to a store and selecting from an assortment what you need; reading

is prone to be like attending an auction, where you buy what you do not want, and pay for it what you do.

Again, your list of topics — each a cord to string pearls on — will enlarge as naturally as a circle widens in water. Whenever you kindle a dry stick, many a green one will catch; and each new topic will rouse you to till those old fields which yield new corn, and will add to your eye a precious seeing, — ay, telescopes and microscopes, till you discover Americas that lay hid from Columbus. Notes lead to queries which are the keys of knowledge, often to those which, though you cannot answer them for years, make you watchful for every clew to such labyrinths, and train you to habits of investigation.

In 1850, a weekly magazine, entitled *Notes and Queries*, was started in London, as a medium of inter-communication between men who wished to make inquiries, and those who could, and would, give a note in answer. This work was soon appreciated, and received contributions from the utmost corners of the English-speaking world. It brought together scraps from the million of books hid in the British Museum, and leaves from a thousand note-books, and yet showed that their authors all regretted that they had not sooner and more scrupulously made their motto, Captain Cuttle's:—"When found, make a note of." It has begotten legions after its kind. It will soon complete its eightieth volume, with six volumes of indexes, and is still renewing its youth; when it pipes some correspondent at the antipodes dances. Its French sister, the *Intermédiaire*, was born in Paris, a quarter of a century since. No one can study either of these myriad-minded works without finding questions answered which long ago arose in his mind, and which he has given up in despair, as well as others proposed which it would not have puzzled even him to solve. *Notes and Queries*, and the *Intermédiaire*, form a series which no library can afford to dispense with, yet they are not, like your own note-book, all made up of matters that have been elaborated in your own mind. Good as a supplement, they are good for nothing as a substitute for your own volume. For the same reason, your own *index rerum*, before you have filled a hundred pages of it, will be worth more to you than the fifteen hundred pages of Poole's universal index to seven thousand volumes of periodicals. That work is indeed an inestimable aid to research, and has doubled the use and consultation of periodicals in all great libraries. But its chief references are to works beyond the reach of most students, and they relate to what you

do not know, while your own writing treats of what you do know. The index you make, showing whatever of research you have already accomplished, is the best possible preparation for your prizing and making full proof in further requisitions of the grander index which Poole and his fifty coadjutors have elaborated, somewhat as the Mediterranean voyages of Columbus were a superb training for *plus ultra*, namely: his supreme adventure in the dread unknown of the Atlantic, beyond the terminal pillars of the ancient world.

Study and speculation in our time are more than ever comparative. They have of late been more and more drifting in this direction, thanks to unexampled facilities for inter-communication, to legions of travelers, to cosmopolitan museums and libraries, and in our country especially, to composite nationality. No scholar can do his best in comparative investigation, without taxing all the world. But the results of his research cannot many of them be held in his memory at any one time. Therefore the cardinal truths he discovers — the *summa fastigia rerum* — must be accumulated before him — side by side in a condensed survey. Then only, is he able to estimate their strong connections and nice dependencies. Passavant traveled over Europe to inspect sketches by Raphael, with a view to illustrate the gradual growth of that pictorial master; but he was unable to reach them all, and he sometimes forgot one before he arrived at another. His journeys were before the era of photography. In later years those sketches, one and all, have been reproduced in photographic fac-simile, under the patronage of Prince Albert. Hence Grimm, the latest biographer of Raphael, without any journeys at all, was master of the situation, as Passavant could never be. Materials came to him as if of their own accord, which former students had sought so far, so long, and sometimes so vainly. What photography did for Grimm, a note-book, faithfully and fitly dealt with, will do in spreading before you whatever accumulations for comparative speculation your experience has enabled you to gather up. Indeed, like the apostles gathering the fragments of the loaves and fishes, you will be astonished that, adding mite to mite that nothing may be lost, you have so soon filled a basket, and more than one basket.

In view of such considerations as I have now presented, most people say: "Oh that we had thought of these things sooner — when our school-days began, or at least when they ended; but now, alas, it is too late! For us the harvest is past." Let me

remind these faint hearts that in a certain New England graveyard you may read this epitaph: "*Here lies one who existed seventy years, but lived only seven.*" Possibly that old man was first married at three score years and ten; or, as old bachelors think, he then became a widower. It seems more likely that at seventy years he began to keep a commonplace book, and found the practice a new birth,—a higher birth,—so that he reckoned former years, in which he hardly knew he was born, as existence, but not life. [One old man at Darlington, when this lecture was given there, cried out in the audience, "I would give a hundred dollars to have heard this talk forty years ago."]

Moreover, what more likely to lead to the best reading, and to dropping many a novel like a hot coal, than a habit which holds before you perpetual contrasts between that investment of time that is remunerative, and that which brings no return; between the harvest from sowing wheat, and that from sowing wild oats; between what inspires with virtue and what infects with virus?

Nothing renders intellect dyspeptic sooner than gluttonous reading. What better check on such a surfeit than a style of training which bids you refuse a second meal till you have digested the first? The mind of a voracious reader—what is it like? It has been compared to a purse so full that it will not shut, but lets everything drop out. I will rather compare it to a hound unable to track a deer through a flower-garden, losing the scent through multiplicity of odors. It may find a still more apt emblem in that Thracian reveler who, when he could drink no more, poured wine on his clothes till he drenched himself from head to foot; yet the wine was all outside. So is the voracious reader's reading, as the Koran is outside of many a Moslem who wears every word of it written on his shirt. Or, once again, the gluttonous reader resembles the patients of a doctor who fed such as had lost their appetite by soaking their feet in pails of soup. Still, the food is all outside. So is yours from omnivorous reading. You deprecate such a destiny. You will escape it, and make digestion as good as appetite, in proportion as you subordinate what you read to your own laws of thought. How can you do this better than by such writing as I urge? Thus will you hold fast your individuality, as that John Bull did who, traveling in Indiana, when he expressed fears of fever and ague, was told by his landlady that he was out of danger; for he carried so many English airs with him, such a British atmosphere, that he would remain proof against chills, even where all Hoosiers were shaking.

To but one more of the advantages resulting from devotion to commonplacing will I now advert; and that is the aid thus ministered whenever you have need to recall what you have learned; summoning into the living present whatever on any point you have ascertained in the dead past. "Without such a remembrancer," says Johnson, "recollection will come too late for use." "Knowledge," says Carlyle, "which wants an index, wants everything." It is a clock-face without any hands at all, for hour, or minute, or second. For lack of it you have consumed days in a wild-goose chase for a passage, dodging like a flea, to which it would have given you a clew in a moment; for

"When index-keeping turns a student pale,
It holds the eel of science by the tail."

As "the table wherein all your thoughts are visibly characterized and engraved to lesson you," it will unroll, as on a map, all provinces of knowledge you have ever explored. You will have salt-pits that you can extract salt out of and sprinkle where you will, and that to better purpose than throwing salt on the tails of pigeons. Your birds shall be in the hand, not in the bush. Thus you will seldom lack any ingredient needful to concoct a bowl of punch,

"Where strong, insipid, sharp, and sweet,
Each other duly tempering, meet —
A little sugar to make it sweet,
A little lemon to make it sour,
A little water to make it weak,
And a little whisky to give it power."

Of course, I mean teetotaller's punch — the good, champagne-y, "old particular" brandy punch of feeling, thought, knowledge. Your ingathering is by no means an end, but a means to an end.

Once having occasion to publish proofs how valuable antique medals are for illustrating language, customs, dress, and all history, I accomplished my object in one day, thanks to my save-all, better than I otherwise could have done in a month. How is this? Why, while reading Gibbon some years before, I had entered by chapter and note in my book of memory a nugget from every placer I mined, that is, every instance in which his *Decline and Fall* is, from first to last, elucidated by coin or medal. In other cases more than I can number have I found that "a commonplace book contains many notions in garrison, whence the owner may draw out an army into the field." Nay,

what is it but the whistle of Roderick Dhu in the solitary forest, which we read of in the *Lady of the Lake* :

“He whistled shrill,
And he was answered from the hill;
Instant through copse and heath arose
Bonnets and spears and bended bows;
That whistle manned the lonely glen
At once with twice five hundred men.”

Promptness is power. Where is not prompt knowledge in request? I never saw a man out of work who was ready to communicate, and had said of learning, — what ladies say of secrets, — that if it were offered him on condition he should keep it all to himself he would not take it. Promptness is power. Ready money commands interest. What a little thing is a cannon-ball, compared with a battering-ram; but it is prompt — shattering that it may reach, and shattering what it reaches; and just because it works in hot haste, like the thunderbolt outrunning the thunder, it has superseded the battering-ram, the old foggy monarch of sieges. “Little fellow,” said Goliath to David, “how much do you weigh?” The stripling’s answer was, “Ordinarily I weigh in the scale one hundred and twenty, but whenever I get mad I weigh a ton — every ounce of it.” When mad he was nimble, and hence his sling-stone outweighed the spear huge as a weaver’s beam.

Promptness is power. The wheel of fortune rolls, but the prompt man is spry enough to keep atop of it all the time. Primaries fail; substitutes are called for, who can furnish, if not what it best in itself, yet the best they have, on the spur of the moment, prompt as a Caudle-lecture. No year will elapse at some emergency in which you will not be more than yourself if you can collect your knowledge on some subject as readily as you can double up your fingers into a fist, and can express yourself not as enabled by the mercies of a moment, — not extempore, that is, extrumpery, — but bringing out not merely the froth of your beer, but the body of it, “things new and old”; things new as the latest telegram; things old like wine, which the longer it is kept the better it grows; and all condensed like light in a flash, “with a wave-like upgathering to burst at the end.”

He who thus holds knowledge in hand resembles that puny constable in Boston who arrested a champion pugilist, and, when the giant threatened to flog him, cowed that Hercules by saying, “Whip me! then you will whip the commonwealth of Massachu-

setts." No thews and sinews could stand before you, did past studies thus back you up. But they do not. You have, for instance, to prepare for a debate. You are assured that you have something bearing on the matter in hand; but the knowledge like sleep eludes your grasp, and dodges you the more the more you seek it and the more you need it, till you feel like the man who comes home drunk, and when, groping at his door in the dark, he finds no opening for his night-key, swears some scoundrel has scampered off with the key-hole. No idea can you feel sticking up, like a rabbit's ears or a jug-handle, for you to seize. Nothing at your fingers' ends.

"Like the lock in the Koran to Mussulmans given
For the angel to hold by that lugs them to heaven."

The reason is, that the handles of thought, like the hair of time in the primer, are all forelocks — not one hindlock. In the hour of need where are your facts and arguments? Water spilt upon the ground.

"The keen demand, the clear reply,
The fine poetic image,
The grasp of concentrated intellect
Wielding the omnipotence of truth," —

Where are they? Gone, glimmering in the dream of things that were. Gone, as those who move West fade from Eastern memories. Gone, like that glorious nibble in the trout-hole when you failed to pull your hook in the nick of time. You set your mill running, but there is no grist in the hopper. How can you, then, turn out flour? You will as soon cooper up a new barrel out of an old bung-hole, or hatch chickens from eggs of chalk.

"You beat your pate, in hopes that wit will come;
Knock as you will, there's nobody at home."

He who never saves will never have.

When the debate is over your ideas come flocking around you, and are about as welcome as the doctors who come to the funeral of your friend only to tell you that they have just discovered how he might have been cured, so that he had no business to die. Is there anything more heart-breaking than to be tantalized by knowledge always ready, like friends, — and umbrellas, — except when wanted?

Abound, then, in notes of preparation. Being forewarned, be forearmed. "Go to the ant, thou sluggard, consider her ways, and be wise; which, having no guide, overseer, or ruler, provideth her meat in the summer, and gathereth her food in the harvest." Go thou and do likewise. Stow so as to unlade,

“As warlike arms in magazines we place,
 All ranged in order and disposed with grace, —
 Not thus alone the curious eye to please,
 But to be found, when need requires, with ease.”

“Hast thou a thought on thy brain?
 Catch it while thou canst,
 Or other thoughts shall settle there,
 And this shall soon take wing.”

Ideas are customers; you must wait on them as soon as they come, or they will be gone to your rival who will. However we may have differed concerning the fugitive slave bill, let us be unanimous for a fugitive thought bill. Hurrah for a bill to detect, apprehend, and hold in custody runaway thoughts! Seize the fugitives! Chain them in a coffle. Fast bind, fast find.

“Since losers are sneakers,
 Let finders be keepers.”

The fault with many a man is not that he knows so little, it is rather that so much of his knowledge lies beyond his reach, that he is like that cousin of mine whose nose was so long that he could never hear himself sneeze.

What is a great scholar? De Quincy answers, “Not one who depends on an infinite memory, but also on an infinite power of combination, bringing together from the four winds, like the angel of the resurrection, what else were dust from dead men’s bones, into the unity of breathing life.” He is a tree which includes in its last growth that of all former years:

“A power of arranging, combining, discerning,
 Digesting the masses he learns into learning.”

To recapitulate, or gather into a sheaf my gleanings: Such commonplacing as I advise helps retain knowledge; it is mother of accuracy and order; it fertilizes fancy; it corrects error; it quickens curiosity, widens its scope, and gives kingly command over all one’s havings.

“Each fainter trace that memory holds
 So darkly of departed years,
 In one broad glance man there beholds,
 And all that was at once appears.”

“Of all the best of men’s best knowledges,
 The contents, indexes, and title-pages
 Through all past, present, and succeeding ages.”

What is such a volume less than a cornucopia — Amalthea’s horn of plenty, that flowed with nectar, ambrosia, and whatsoever she would. Such a feast — we do it wrong to name it “common-place.” Where, then, shall we find a name that will do justice

to its nature? I find none except the longest word in the world — the word coined by Aristophanes to denote the most delectable of delicacies, and which is the most polysyllabic that human lips have uttered, because it blends in its single self a smack of every dainty known to the Greeks. That one unique word of seventy-nine syllables is :

λοπαδοτεμαχοσελαχογαλεο-
κρανιολειψανοδριμυποτριμματο-
σιλφιοπαραομελιτοκατακεχυμενο-
κιχλεπικοσσυφοφαττοπεριστερα-
λεκτρυονοπτεκεφαλλιοκιγκλοπε-
λειολαγωοσιραιοβαφετραγαν-
οπτερύγων.

— *Aristoph.*, *Ecclesi.* 1169-75.

Such is my name for a commonplace book — a name none too good for its nature, but for which our poor vernacular affords no better equivalent than the monosyllable “hash.”

I once lived in Cincinnati where four streets met, and was sometimes waked at night by a bell. When I looked out, the gas-burner on the corner would show me the bell-ringer on horse-back, and beside him another mounted man, who when the ringing stopped would cry out: “Oh yes! Oh yes! Child lost! child lost! boy, five years old, — straw hat, — light hair, — checked apron, — blue eyes — Mother lives Race Street, at No. 240.” But, in spite of all this benevolent machinery, the parents of such a stripling wanderer must often have watched and waited the livelong night before the criers could ascertain who had picked up and cared for their darling. Such is our relation to our truant thoughts. We seek them, and they seek us; but neither of us knows where to find the other.

They order this matter of missing boys otherwise in Boston. In that Puritan metropolis there has long been a depot for lost children. Thither whoever meets a rover too young to tell where his home is, straightway leads the little prodigal. There the juvenile estrays are warmed, fed, and amused; and to that asylum every mother, if her wee ones let out to play by the door are lured off by the marvels of the city or snared by its intricacies, so that they answer not her call, turns her hasty steps, confident that her urchins cannot be long in reaching its hospitable doors, and not so much distressed as exhilarated by the romance of her rogues’ getting lost. In this lost-child depot of the Yankees behold my ideal of a veritable commonplace book. It is a place to lay up all you find, and to find whatever you have lost; a depot to which you may lead every wanderer from other men’s brains you know not what to do with, nor yet his relations, satis-

fied that he and his relations will there see eye to eye ; a depot in which you may be sure the children of your own soul—however while you are busy here and there they have vanished out of your sight—are safe and ready for you to rejoice over whensoever you will.

As men differ in ability to make full proof of every other means of culture, so must they in the tact to make the most of commonplacing. No doubt some will expect from the expedient I have proposed miracles, which no expedients can work. Some can make blank-books doubly blank. When a countryman was seen watching the geese on our university green at Madison, as they cackled, and was asked what he was doing, his answer was, that he supposed university geese must gabble in Greek, and so he was listening to hear what they would say. Yet I do not suppose a commonplace book can turn a goose into a Grecian : for spectacles are valueless to him who has no eyes. But to every one who will do what he can in this line, his note-book, as years roll on, will become a richer treasure than Vanderbilt's scrap-book of government bonds, or than that Roman table I gazed on in the Borghese palace, which is inlaid with a specimen of every known gem.

Whoso has a will shall get a sort of skill. His whole life shall gravitate toward it like water toward the ocean. Mark the water. In cisterns a prisoner, in rivers a passenger ; dam it up here, and it is doubly impetuous there ; plunge it in the bowels of the earth, it still gropes its way in the dark. The further it runs the more strength it has to run further. It never rests till it reaches its goal. Nay, it rests not then. It evaporates, rises, returns whence it came as a fertilizing shower. That which the fountain sends forth returns again to the fountain. So whatever your mind as a fountain pours into your written reservoir,—the art preservative of all arts,—shall thence return to bless you altogether. Such a volume, when one has dealt with it half a lifetime, gathering daily manna, will be more to its possessor than any library of printed books ; it is more than half of himself ; yea, such a Mecca of the mind can be described only by Milton ;

“Made porous to receive
And drink the liquid light, firm to retain
Her gathered beams, great palace now of light
Hither as to a fountain countless stars
Repairing in their golden urns draw light.”

Such a commonplace book—least of all books commonplace—may you live long enough to elaborate, and then may you live a good while after that !

ROSE POLYTECHNIC INSTITUTE AND ITS FOUNDER.

TERRE HAUTE, INDIANA.

MEMOIR OF CHAUNCEY ROSE.*

CHAUNCEY ROSE, founder of the Rose Polytechnic Institute, Terre Haute, Indiana, was born in a retired farm-house, on the Wethersfield Meadows, in Connecticut, December 24, 1794, and died at Terre Haute, Indiana, August 13, 1877. John Rose, his father, was the son of John Rose, who emigrated from the Highlands of Scotland early in the last century; and, to this Scotch ancestry many of Chauncey's characteristics are traceable. Mary Warner, his mother, was the daughter of John Warner of Wethersfield. The mother died, aged seventy-two, in 1832, and the father aged eighty, in 1838.

Chauncey Rose survived his six brothers and sister (Mrs. Israel Williams), all of whom were without children; so that when he died, also childless, at the age of eighty-three, he was "the last of his race." Two of his brothers, George and John, were successively partners of Stephen Bulkeley of Hartford, Conn., and carried on an extensive business in the East India trade at Charleston, S. C. Upon the dissolution of this partnership, John became a prosperous cotton-broker at New Orleans. After George's death, John removed to New York, and made a strong impression in financial circles as one of the ablest business men of his time. He went to New York worth \$50,000, and died worth \$900,000.

Chauncey Rose's education consisted of a brief attendance upon the common schools of his District; but he inherited good health, and was endowed with energy, courage, a strong intellect, and abundant common sense; his firmness of will did no discredit to his Scotch ancestry, and his unflinching integrity in purpose and act were marks of his Puritan nurture. To this combination of traits was added the habit of self-reliance, bred in him by the careful training of his father, which is the essential quality of all strong characters, and in Mr. Rose was conspicuous.

To a man of such temper and such circumstances the Northwest Territory, as it was called in those days, offered strong attractions. Mr. Rose decided to try his fortunes on the frontier, and went to Mt. Sterling, Ky., where some friends resided, in the autumn of 1817. The conditions under which he chose Vigo County for his residence are told in his own words, given in Beckwith's History of Vigo and Parke Counties:

* Compiled from data furnished by family and personal friends.

“In the fall of 1817, I traversed the States of Indiana, Illinois, Missouri, Kentucky, Tennessee, and Alabama, looking for a location at which to reside and engage in business. I spent several days at Terre Haute; it had been laid out the previous year. The following winter I spent in Kentucky. Favorably impressed with the location and the people in and about Terre Haute, I returned and became a resident in April, 1818. There were but two cabins in Terre Haute, and the nearest boarding-place was at Fort Harrison, where I boarded, as did the county officers, at a house kept by Mrs. Stewart. . . . There were no direct roads. The trip East was made by way of Louisville, Baltimore, and Philadelphia. It was a source of great rejoicing when the first steamboat landed at Terre Haute, in 1822. In 1819 I moved to Parke County, and engaged in the business of milling. I sawed and furnished the lumber for the court-house erected in the public square; and I returned to Terre Haute in 1825.”

From that date (1825) Mr. Rose engaged in trade, and became one of the most popular and successful merchants of the region. His profits were judiciously invested in land, which he worked according to the most approved methods, until, acre by acre, it gradually passed, with the increase of population, from farm-land into city lots. In these and other ways, open only to those who improve the opportunities of a new country, he amassed a large fortune.

Mr. Rose came to Indiana about two years after the adoption of the first State constitution, and, though the exacting duties incident to a frontier life must have largely moulded his own character, it cannot be questioned that his power of forming and holding fixed opinions, which were founded in his absolute integrity and great intelligence, must have had marked influence upon the new State.

Mr. Rose was foremost in securing the railway transportation in the new State. He bore the principal labor of building the Terre Haute & Indianapolis Railroad; his courage and resolution secured the construction of the road by individual subscriptions—largely secured from his friends by his personal efforts—instead of by the aid of a grant of public land, which had not then become the fashion, and his scrupulous supervision made that road one of the best and safest in the United States. He contributed largely to the railroads from Evansville to Terre Haute, from Terre Haute to Crawfordsville, and from Terre Haute to Danville, Ill.; and nothing but the approach of age withheld him from the same coöperation in building the road from Terre Haute to St. Louis by way of Vandalia.

Mr. Rose was never indifferent to the influence of religious institutions on a growing community. He contributed liberally towards the expense of nearly every church edifice in Terre Haute, not failing to recognize the equal claims of the colored people. He was always a pretty regular attendant on church till within a few years of his death. His filial regard for his mother, a most admirable woman, influenced him in his

action on such matters. It is said that her opposition to his plan for going West was softened by his promise to pay her an annual visit. This promise he could not fulfil till the end of the fifth year; but the annual visit, often performed on horseback, was rarely again omitted during the good lady's life. After her death, he gave the old homestead to the town of Wethersfield,* with \$3,000 to improve it, and added \$2,000 for the town library, and \$12,000 to endow an academy.

“Mr. Rose dispensed many private charities which were unknown to any except the recipients and himself, in which quiet field of benevolent operations he kept alive and invigorated the sentiments of philanthropy, which grew and increased as the circle of his good works was enlarged. For some years before his death his mind was greatly exercised in determining the most suitable method of so distributing his property that the public should be benefited by it, especially that part of the public where he had lived so long, where he had formed many friendships, and where his wealth had been acquired.

“He had strong sympathy for those who have to struggle without fault against the tide of adverse fortune which overwhelms so many victims, and the consciousness of having relieved the meritorious poor, always gave him lively satisfaction.”†

His numerous, though unannounced acts of kindness in their behalf prepared his mind for the larger gifts to the Ladies' Aid Society of Terre Haute, a most effective charity, the Providence Hospital, the free Dispensary, and the Rose Orphans' Home.

It is an interesting fact that this long train of good deeds, as well as the greater one which remains to be noticed, followed if it did not proceed from an act of justice to the memory of his brother John, which was so unique and remarkable that it cannot be omitted.

He found that, for many reasons, the will of his brother, if executed under the laws of the State of New York, would not accomplish his brother's clearly-defined intentions. The will made bequests of more than a million of dollars, and Mr. Rose became satisfied that only a small part of these bequests would reach the objects for which they were intended. He accordingly instituted legal proceedings to set the will aside, and, after nearly six years of vexatious litigation, succeeded in doing so. The estate was then valued at \$1,600,000. To this sum he became sole heir.‡ This result, as Col. Thompson well says, “would have put the character of almost any man to a severe test, and a large majority of men would, without hesitation, have appropriated the money to their own use. Not so, however, with Mr. Rose. It required no deliberation on his part to decide that justice to the memory of his brother and to his own character required that the money should be

* It is now the Town Farm, a well-ordered asylum for the poor.

† Col. R. W. Thompson's address at the inauguration of the Rose Polytechnic Institute.

‡ Henry Rose was living at the time of John Rose's death; but his equitable claim upon the estate was honorably settled by Chauncey before the proceedings for setting aside the will were begun, and Henry joined him in those proceedings. [C.O.T.]

disposed of by him so as to execute the objects provided for in the will as far as possible. As the representative of his brother, therefore, voluntarily and without any compulsion, he did this, by disposing of the money in New York for charitable objects, such as the Newsboy's Home, the Institution for the Relief of the Ruptured and Crippled, and others of like character." He made many gifts in Charleston, S. C., in commemoration of his brother's former citizenship there. For all these he dispensed more than a million and a half of dollars.

But Mr. Rose ever felt a deep solicitude about the education of the young for the most effective service in our busy American life. His views on this subject may be safely taken from the pen of his friend, Col. Thompson:

"He took deep interest in the cause of education generally. But that kind of education most suitable for young men of genius, talents, and enterprise, and which should fit them for the highest spheres of practical life, was, with him, a favorite topic of thought and conversation. His leading idea was that a system should be provided that would blend the industrial sciences with the branches of knowledge usually taught in the schools and colleges, so that the pupils should not only become scholars, in the ordinary sense, but should be enabled to follow the various mechanical, professional, and industrial pursuits with intelligence and skill. He desired to build up a class of educated and scientific mechanics and laboring men, so that, in the pursuit of their various vocations, they should be able to give full scope to their inventive and constructive talents. In furtherance of his general purpose, he gave, from time to time, liberal contributions to Wabash College, at Crawfordsville. He also furnished the means of adding essentially to the library of the State Normal School in this city, and paid the expenses of a considerable number of young ladies while fitting themselves at that school to become teachers.* At last, his leading and long-cherished thought with reference to education culminated in gifts and bequests for the establishment of the polytechnic school."

In the steps that Mr. Rose took to carry out his plan, he displayed all his best traits. Naturally distrustful of his own knowledge of schools, he went to see some of the most noted institutions that gave prominence to scientific subjects, and consulted all his friends who had any knowledge or experience in such matters. The timely and judicious suggestions of these friends—and we name, without disparaging the weight of others, Joseph Cottell and Barnabas Hobbs—had decided influence with Mr. Rose in his final decision to endow a polytechnic school.

To obtain the information necessary to determine in what mould the institution should be cast, he commissioned† two of his associates in

* His annual gifts for the aid of young women frequently exceeded \$5,000. [C.O.T.]

† Charles R. Peddle, Esq., Superintendent of Motive Power on the Vandalia Railroad, and President William A. Jones, of the Indiana Normal School.

the corporation to make a thorough inspection of all institutions in the country that offer courses in higher technology. This committee discharged their duty most faithfully, and presented to Mr. Rose an elaborate report, in which the features and statistics of each of the great polytechnic schools in the United States are carefully set out.

Mr. Rose studied this report long and thoroughly. He sought counsel and information from every available source. The result was that he decided to repeat, as far as changed circumstances would permit, the plan of the Worcester Free Institute. He remained a member of the Board of Trust till the buildings were completed and the general policy of the institute fixed, when, on account of his age and infirmities, he resigned his office June 2, 1877.

The Polytechnic Institute, as Mr. Rose's residuary legatee, will receive, with his donations while living, an aggregate of not less than \$500,000. His various gifts in Terre Haute and vicinity for philanthropic purposes exceed a million of dollars.

We close this brief memoir of Chauncey Rose with the appreciative eulogy of his old friend and neighbor, Hon. R. W. Thompson:

Estimate of Life and Character.

In his business transactions he always displayed great sagacity, and was scrupulously exact. His mind was well balanced and his judgment generally accurate, both as regarded men and things. He read a good deal, and was a careful observer of passing events, which he analyzed with great thoroughness. He was, therefore, among the earliest of those who foresaw the growth and prosperity of this city and county, and, indeed, of the State. These were always favorite topics with him, and so decided were his convictions with regard to them that he was always ready whensoever the occasion presented—or to create an occasion when none existed—to assist in all measures tending to these ends. When the charter for the Terre Haute & Richmond (now the Terre Haute & Indianapolis) railroad was first obtained, it was considered a matter of great doubt whether the money necessary for its construction could be obtained, as money, in those days, was not so plenty as it is now. A convention was assembled at Indianapolis to consider what steps should be taken, and it was there proposed that an effort should be made to obtain a grant of lands from the United States sufficient for the purpose. A majority of the convention were disposed to favor this proposition; but Mr. Rose made such stern opposition to it that it was finally abandoned—showing in this the power and strength of his will. His defeat of the project created in his mind an impression that if the enterprise should afterwards fail, a large share of the responsibility would rest upon him. And this consideration, added to his great anxiety for the construction of the road, stimulated him to extraordinary personal exertions, which he immediately put forth with so much energy and perseverance that the money was raised by individual subscription, and the road built,

mainly by his efforts and with capital furnished by him. But for him it would not have been then built, and but for him it would not have been so well built as to have become what it now is and has always been, one of the best and safest railroads in this country. He caused it to be constructed as he did everything else in which he participated, being governed by the rule, that whatever was worthy of being done at all should be well done.

He acquired the reputation of being what is popularly called a "railroad king"; and if to have been one of the foremost and most conspicuous among the pioneer advocates of that kind of improvement entitled him to be so known, the title was properly given him. He contributed very largely to the railroads from Evansville to Terre Haute, from Terre Haute to Crawfordsville, and from Terre Haute to Danville, Illinois; all of which are more indebted to him for their construction than to any other individual. He advocated zealously, for many years, a railroad from Terre Haute, through Illinois, to St. Louis, and expended money liberally in making experimental surveys. But his advancing age admonished him that it was necessary for other and younger men to carry out this important scheme, and he was content to see what he had done made available in the construction of the St. Louis, Vandalia & Terre Haute road, now a part of the Vandalia line.

Mr. Rose was a resolute man. In all the enterprises in which he engaged he displayed this quality, and, in consequence, generally achieved success in what he undertook. His strong will enabled him to influence others and to impress them with his opinions. It was this which gave him his own earnestness and untiring activity in pursuit of the objects he desired to accomplish; for it is one of the inexplicable laws of the human mind that its own vigor and energy is increased in the same proportion as it imparts them to others. To others, he could not be unfaithful, because he was true to himself. And as he always acted with strict fidelity to his convictions, he pursued the line of duty, as he conceived it, with unfaltering purpose.

The accuracy of his judgment in business affairs enabled him to make judicious investment of his means, and this resulted in the accumulation of his large estate, which, when acquired, he seemed to consider as being held by him in trust for the public, and as imposing upon him obligations which grew out of his relations to society. Thus he dispensed many private charities which were unknown to any except the recipients and himself, in which quiet field of benevolent operations he kept alive and invigorated the sentiment of philanthropy, which grew and increased as the circle of his good works was enlarged. For some years before his death his mind was greatly exercised in determining the most suitable method of so distributing his property that the public should be benefited by it, especially that part of the public where he had lived so long, where he had formed many friendships, and where his wealth had been acquired. He had strong sympathy for those who have to struggle, without fault, against the tide

of adverse fortune which overwhelms so many victims. This became a fixed sentiment in his mind, so that the consciousness of having relieved the suffering of the meritorious poor gave him always intense gratification. Our citizens all know how many evidences of this were, from time to time, given by him. By his munificent gift to the Ladies' Aid Society of this city he has enabled it, under the admirable administration of its managers, to become a noble and magnificent charity. His donations to Providence Hospital were upon a most liberal scale. The medical dispensary which he established in this city, and where the poor are to be provided for without charge, is a work of Christian benevolence. And added to these, and others less conspicuous, there is the Orphan Home, with an endowment sufficient to assure its permanency, which, of itself, is enough to confer immortal honor upon his memory.

Few men have left so many evidences of a humane and philanthropic spirit, or have bestowed their charities more wisely. There is an entire absence of anything like selfishness in each one of them, and so quietly were many of them dispensed that the public knew nothing of them until their fruits were observed. As his own conscience guided him, and he needed nothing more than its approval, he did not seek after notoriety or what the world calls fame. As it was impossible to shake his purpose when it became fixed, so it was always executed without regard to mere applause. As he deliberated well and intelligently before acting, and followed the counsel of his own convictions, so he left his acts to speak for themselves, as they now do with eloquence which no words can imitate.

The many who have already been relieved by his benevolence will unite in the bestowal of blessings upon his memory. Hundreds of others yet to come, who shall share the benefactions he has so bountifully provided, will repeat his name with sincere and heartfelt praises. But there will be none louder or more earnest in this than the recipients of the blessings which shall flow from this school, whose foundations he has laid with so much wisdom and foresight, and around which his affections clustered with the most intense ardor of his nature.

As one of the survivors in that circle of which he was for so many years a conspicuous part—a circle growing smaller and narrower every day—it is only left for me to say, in closing, that as I knew him in life to possess integrity which no temptation could shake, and honesty which no tongue ever assailed, I join, earnestly and heartily, in whatsoever expression of praise his character and his deeds of love, of mercy, and of benevolence shall call forth. May the noble charities of his long life continue to shed their benignant influences upon society when we, too, have passed away. May his earthly remains sleep gently in the narrow sepulchre of the dead; and may his immortal spirit, freed from the shackles of earth, dwell forever in that "house not made with hands, eternal in the heavens," where the good deeds

of a well-spent life are rewarded by the dispensations of a God whose love is as boundless as eternity, and whose "mercy endureth forever."

Provisions in Will of Chauncey Rose.

(3.) I give and bequeath to the Rose Polytechnic Institute, the corporation formed under the laws of the State of Indiana by articles adopted September 10, 1874, and recorded in miscellaneous record, No. 5, pages 282, 283, and 284, in the Recorder's office, in Vigo County, in said State, under the corporate name of Terre Haute School of Industrial Science, which was changed to that of Rose Polytechnic Institute by amendment to said articles, adopted September 11, 1875, and recorded in the Recorder's office of said county the same day, in miscellaneous record No. 5, pages 359 and 360, the picture of myself, mentioned in a certain paragraph, and the sum of \$107,594.34, exclusive of the real estate, or any sum, credits, rights, effects, or property I have before conveyed, given, or delivered to said corporation.

(4.) I give and bequeath to the Vigo County Orphan Home, a corporation formed under the laws of the State of Indiana, by articles recorded in miscellaneous record, No. 5, pages 290, 291, 292, in the Recorder's office of Vigo County, in said State, the sum of one hundred and fifty thousand dollars (\$150,000), exclusive of any sum or property I have before given or devised to said corporation.

The purposes of said corporation are to provide in one asylum or home, as prescribed in said articles, for the care, education, and support of orphan children, meaning thereby any persons within the age of sixteen years who are deprived of parental care by the death of either father or mother, or both of them, together with the support of aged females and that of decrepit persons. When it shall be authorized by law, the care and support of aged males may also be provided for at said home.

The sum herein bequeathed, with any sum or property before given, may be employed for said charitable uses.

(5.) Believing that an institution by which medicines shall be dispensed and advice given gratis to the poor will benefit such as reside in the county, if established and maintained in the city of Terre Haute and State of Indiana, and that such an institution or dispensary may be so established and maintained by a corporation to be formed under the laws of said State, within one year of my decease, by the following named persons or the survivors of them, to wit: Firman Nippert, Wm. K. Edwards, Josephus Collett, Samuel McKeen, Eli B. Hamilton, Milton S. Durham, and Mirah Jeffers. I give and bequeath to my executors, hereinafter named, in trust, the sum of seventy-five thousand dollars (\$75,000), to be paid by them to said corporation, when organized by articles, in which it shall be provided that every vacancy that may occur in said corporate body by death, resignation, or otherwise, shall be filled by the surviving members at the earliest practicable time, without unnecessary delay, and thus perpetuate said dispensary or corporation. Of said sum, fifteen thousand dollars (\$15,000) may be appropriated and expended towards the purchase of a lot and the erection of a suitable building thereon for said dispensary, and two thousand (\$2,000) for the purchase of medicines. The balance shall be faithfully preserved as a permanent fund, the interest or income thereof only to be used, from time to time, for the purpose expressed in this paragraph. If any part of the interest or income may not be expended, it may, at the discretion of said corporation, be added to the principal.

(6.) I give and bequeath to W. K. Edwards the sum of five thousand dollars (\$5,000), and to Josephus Collett and Firman Nippert each the sum of two thousand five hundred dollars (\$2,500).

(8.) The residue of my estate, both real and personal, over and above any devise or bequest I have made herein, I give and bequeath and devise to my executors in trust, to be by them given, delivered, or conveyed to the Rose Polytechnic Institute, the corporation named in the third item or paragraph hereof.

By the decision of the highest court of the State of New York, in setting aside the will of John Rose, with its charitable devises, his large estate became the property of Chauncey Rose, to do with as with any other property which the law recognized as his own; but, without the slightest hesitation, and to the full amount which came into his hands, Mr. Rose disposed of nearly one million and a half of dollars in public charities, which he believed came within the purposes of his deceased brother, in making his last will, which had been set aside for indefiniteness.

DISPOSITION OF JOHN ROSE'S ESTATE.

[Copied from entries in Mr. Chauncey Rose's ledger between December 26, 1863, and September, 1869.]

Children's Aid Society,	-	-	-	-	-	-	\$220,000
Female Guardian Society or Home of the Friendless,	-	-	-	-	-	-	50,000
Five Points Home of Industry,	-	-	-	-	-	-	40,000
Magdalen Society,	-	-	-	-	-	-	30,000
Aged Indigent Females,	-	-	-	-	-	-	20,000
Female Asst. Society,	-	-	-	-	-	-	25,000
Colored Orphan Society,	-	-	-	-	-	-	10,000
Mariners' Female Asylum,	-	-	-	-	-	-	5,000
Destitute Children of Seamen,	-	-	-	-	-	-	5,000
Society for Relief of Crippled and Ruptured Children,	-	-	-	-	-	-	72,000
Juvenile Asylum,	-	-	-	-	-	-	20,000
Women's Hospital,	-	-	-	-	-	-	10,000
Nursery for Poor Children,	-	-	-	-	-	-	15,000
Society for Relief of Poor,	-	-	-	-	-	-	2,000
Home for Aged and Infirm Colored People,	-	-	-	-	-	-	6,000
Dorcas Society,	-	-	-	-	-	-	11,000
Wilson's Industrial School,	-	-	-	-	-	-	16,000
Children of Destitute Soldiers,	-	-	-	-	-	-	1,000
Orphan Asylum of New York,	-	-	-	-	-	-	21,000
Society for Relief of Disabled and Diseased Soldiers,	-	-	-	-	-	-	20,000
New York Female Asst. Society,	-	-	-	-	-	-	10,000
New York Colored Asylum,	-	-	-	-	-	-	10,000
New York Colored Home,	-	-	-	-	-	-	10,000
Society Relief Ruptured and Crippled,	-	-	-	-	-	-	10,000
Nursery for Poor Children,	-	-	-	-	-	-	5,000
Five Points Ladies' Mission,	-	-	-	-	-	-	10,000
Association for Improvement of Condition of Poor,	-	-	-	-	-	-	5,000
Home for Friendless Girls,	-	-	-	-	-	-	5,000
Institution for the Blind,	-	-	-	-	-	-	5,000
Industrial Farm School,	-	-	-	-	-	-	5,000
Demilt Dispensary,	-	-	-	-	-	-	15,000
Home for Friendless, New York,	-	-	-	-	-	-	30,000
Eye and Ear Infirmary,	-	-	-	-	-	-	44,000
Mariners' Female Asylum,	-	-	-	-	-	-	5,000
Protestant Half-Orphan Asylum,	-	-	-	-	-	-	5,000
Home for Destitute Families of Soldiers,	-	-	-	-	-	-	5,000
Colored Home,	-	-	-	-	-	-	5,000
New York Orphan Asylum,	-	-	-	-	-	-	2,500
St. Anne's Church for Deaf Mutes,	-	-	-	-	-	-	2,500
Home for Reception of Magdalens,	-	-	-	-	-	-	4,000

Aged Female Institution, - - - - -	\$300
Society for Crippled and Ruptured, Dr. Knight, - - - - -	10,000
Colored Orphan Asylum, - - - - -	6,000
Infirmary for Women and Children, - - - - -	2,000
Society for Aged Colored People, - - - - -	1,000
New York Society for Relief of Poor, - - - - -	2,000
Society for Relief of Aged Respectable Females, - - - - -	2,000
Eastern Dispensary, New York, - - - - -	6,000
Women's Hospital, - - - - -	12,000
Northwestern Dispensary, - - - - -	7,000
Samaritan Home for Aged, - - - - -	1,000
Union Home and School for Children of Volunteers, - - - - -	2,000
Howard Mission or Boarding-House for Young Women, - - - - -	3,000
Women's Evangelical Mission, - - - - -	3,500
Incurables of New York, - - - - -	30,000
Aged and Infirm Females, - - - - -	10,000
Aged and Infirm Soldiers, - - - - -	10,000
Aged Colored Home, - - - - -	10,000
Infirmary for poor Women with Children, - - - - -	5,000
Association for Relief of the Poor, - - - - -	5,000
Female Assistant Society, - - - - -	5,000
New York Dispensary, - - - - -	5,000
Women's Lying-in Hospital, - - - - -	5,000
Seamen's Widows and Children, - - - - -	3,000
Children's Aid Society, Brooklyn, - - - - -	20,000
Industrial School, - - - - -	5,000
Orphans' Home, - - - - -	5,000
Colonization Society, - - - - -	5,000
Incurables, - - - - -	3,000
Orphans' Home of New York, - - - - -	6,000
Brooklyn Orphan Asylum, - - - - -	16,000
Brooklyn Industrial School or Home for Destitute Children, - - - - -	10,000
Brooklyn Industrial School and Home for Destitute Children, - - - - -	5,000
Brooklyn Orphan Asylum, - - - - -	5,000
Society Destitute Children of Seamen on Long Island, - - - - -	5,000
Women's Hospital, Brooklyn, - - - - -	10,000
Widows with Small Children, Brooklyn, - - - - -	17,000
Home Aged Women, Brooklyn, - - - - -	5,000
Aged Female Asst. Society, Brooklyn, - - - - -	2,500
Children's Nursery of Brooklyn, - - - - -	5,000
Mt. Prospect Industrial School, Brooklyn, - - - - -	5,500
Brooklyn Dispensary, - - - - -	5,000
Charleston Orphan Society, - - - - -	5,000
Wethersfield Library, - - - - -	2,500
Wethersfield Seminary, - - - - -	18,000
	<hr/>
	\$1,464,500

NOTE.—The societies and institutions enumerated are all in New York, unless otherwise designated.

A correct copy by

C. O. THOMPSON.

*Historical Development, 1874-84.**

The Rose Polytechnic Institute, at Terre Haute, Indiana, originated with Chauncey Rose, prior to 1874, in a desire to convert a portion of his own earnings into an institution in which young men of the city, county, and State of his residence might be trained in the useful and practical knowledge of some art or occupation by which they could be better able to earn a competent living. To this end, he associated with himself several old and trusted friends in a body corporate, under the laws of Indiana, which, on the 10th of September, 1874, adopted articles of association for the establishment of an "institution for the

Terre Haute School of Industrial Science.

intellectual and practical education of young men," to be known as the "Terre Haute School of Industrial Science," and to be administered by a board of managers. The body corporate consisted of Chancey Rose, Joseph Collett, Firmin Nippert, Charles R. Peddle, Barnabas C. Hobbs, William A. Jones, Demas Deming, Ray G. Jencks, Charles Cruft, and William K. Edwards.

On the 10th of October, 1874, the board of managers was organized by the election of CHAUNCEY ROSE, *President*, JOSEPHUS COLLETT, *Vice-President*, DEMAS DEMING, *Treasurer*, and WILLIAM K. EDWARDS, *Secretary*; and a committee consisting of Messrs. Cruft, Peddle, Hobbs, and Jones were appointed to mature plans for effecting the objects of the association. On the recommendation of this committee, architects were consulted for tentative plans of building on a site for this purpose conveyed by Mr. Rose, who, at the same time presented to the association railroad securities to the value of \$100,000, which was soon increased by the further sum of \$86,000. By the 11th of January, 1875, the corner stone of the main edifice, as designed by Isaac Hodgson, of Indianapolis, was laid with ceremonies and addresses by Col. W. K. Edwards and B. C. Hobbs, LL.D., appropriate to the occasion, and which was made memorable by the action of the board of mana-

Rose Polytechnic Institute.

gers in changing the name of the association to the Rose Polytechnic Institute, against the persistent protest of the president. Near the close of the year 1875, Mr. Rose presented a statement of bills paid by him towards the equipment to the amount of \$31,255, with quittance in full, and the addition of \$100,000 in certificates of preferred railroad stocks, to the endowment fund.

On the 2d of June, 1877, Mr. Rose tendered his resignation of the presidency and his membership in the board on account of age and increasing infirmities, and on the 13th of August died, leaving in his last will a specific bequest of \$107,594, and constituting the Institute

* Compiled from the printed history of the Rose Polytechnic Institute by Samuel S. Early, Secretary of the Board of Managers.

his residuary legatee, after providing certain devises to individuals, to the Rose Orphan asylum, and the Free Dispensary.

After some delay in the settlement of a large estate and the payment of the special legacies, the completion of the buildings, and the accumulation of sufficient income to provide for the equipment of the institution, and an adequate teaching force, the managers, in 1882, set about to find the right man to organize the course of studies, select a faculty of instruction, and procure the necessary apparatus and outfit for the workshop. All is well that ends well; but in all special schools, the selection of the organizing head should precede even the plan of building, as well as all purchases of equipment and apparatus, whereby many errors of construction will be avoided, as well as expensive alterations and needless hindrances and frictions. In this instance, the right man was found and secured, who had in himself the best general training our high schools and colleges can give, and the necessary knowledge of what had been done in institutions of this class where they have been longest in operation, as well as actual experience in developing a similar institution on American soil with adaptations to our own wants and conditions.

In the president of the Worcester Institute of Technology, Charles O. Thompson, the managers secured a graduate of Dartmouth college in high standing for general scholarship, and with special aptitudes and acquisitions required in technological instruction, and who, before finding his special field as organizer and teacher of an American school of technology, had taught with eminent success several public high schools, each in succession of a higher grade in studies and compensation, and who, from the start, had shown himself an earnest, diligent, catholic scholar and inquirer after the best methods of teaching the essential things, and securing discipline by keeping his pupils interested and occupied in their work. Before entering on the administration of the Rose Institute, he was allowed to refresh his own faculties by the rest of travel, and of observation in fields having a special interest to him in his past and future work, and which he was now prepared to look at with the discriminating and appropriating judgment which actual experience alone can give. Thus equipped by natural endowments, general training, and special experience, President Thompson entered into full possession of his new position and duties on the 7th of March, 1883, with an Inaugural Address setting forth the nature and claims of an Educational Institution like that of the Rose Polytechnic Institute, and with the fullest confidence of the board of managers, and the best wishes of a host of old friends among the teachers of the country.

The Rose Polytechnic Institute, exclusive of the cost of building and equipment will have a productive capital of at least \$500,000.



WESTERN BANK NOTE & ENG. CO.

ROSE POLYTECHNIC INSTITUTE.

Buildings and Equipment.

The buildings provided for the lectures and class-rooms, and the practical work of the Rose Polytechnic Institute, consist of:

I. *Academic Building*, designed by Mr. Isaac Hodgson of Indianapolis, after suggestions by Mr. Rose, and study of plans of other technological schools, was erected at a cost of \$82,700.

First Floor, with Lecture and Recitation-rooms for the Department of Mechanics, Elementary Mathematics, the General Library, the President's Room, and Reception or Business Office, as indicated on plan.

Second Floor, with Department of Physics (A. Z. F.), Department of Civil Engineering (C), and Department of Drawing (B. I. M.), with Recitation-rooms.

Third Floor, with Museum of Mechanical Models (B), Cabinet of Mineralogy (A. Z. F.), and Chapel (C. D.), and four Recitation-rooms.

The Basement, and Attic on Fourth Floor, each of the same dimensions with the other floors, are utilized for Institute purposes.

II. *Machine and Work-shop*, main building 162 ft. by 40 ft., with a wing of 80 ft. by 40 ft., having appropriate equipment on

First Floor, for Iron-work (H), with Drawing-room (B), Foundry (I. J.), Blacksmith's shop (H), Tool-room (E), and Engine and Boiler-rooms (G. F.)

Second Floor, extending 40 ft. by 162 ft., full dimensions of the main building, and having facilities for Wood-work, and tool and store-rooms.

III. *Chemical Laboratory*, a building 70 ft. by 40 ft., with every facility for practical work by the students in this department.

Equipment.

On the Equipment of the Machine Shop the sum of \$35,000 has been expended, affording facilities for doing the best work in wood and iron, under the superintendence of a skilled director assisted by skilled journeymen.

Library.

The Library is already supplied with 5,000 volumes selected in response to the special requirements for the reading and instruction of pupils in technological studies and practice.

SUBJECTS AND COURSE OF STUDY.

The course of study occupies four years, as follows:

FRESHMAN CLASS:—Free Drawing, 6 hours; Mathematics, 7; Practice, 25; Private Study, 14. Total, 52 hours per week.

SOPHOMORE CLASS:—Free Drawing, 2 hours; Mechanical Drawing, 6; Mathematics, 6; Language, 4; Chemistry and Physics, 4; Practice, 10; Private Study, 24. Total, 56 hours per week.

JUNIOR CLASS:—Mechanical Drawing, 6 hours; Mathematics and Theoretical Mechanics, 4; Language, 4; Chemistry and Physics, 4; Practice, 10; Private Study, 24. Total, 52 hours per week.

SENIOR CLASS:—Mathematics, 5 hours; Language and Ethics, 5; Physics, 3; Chemistry, 1; Engineering, 3; Practice, 10; Private Study, 25. Total, 52 hours per week.

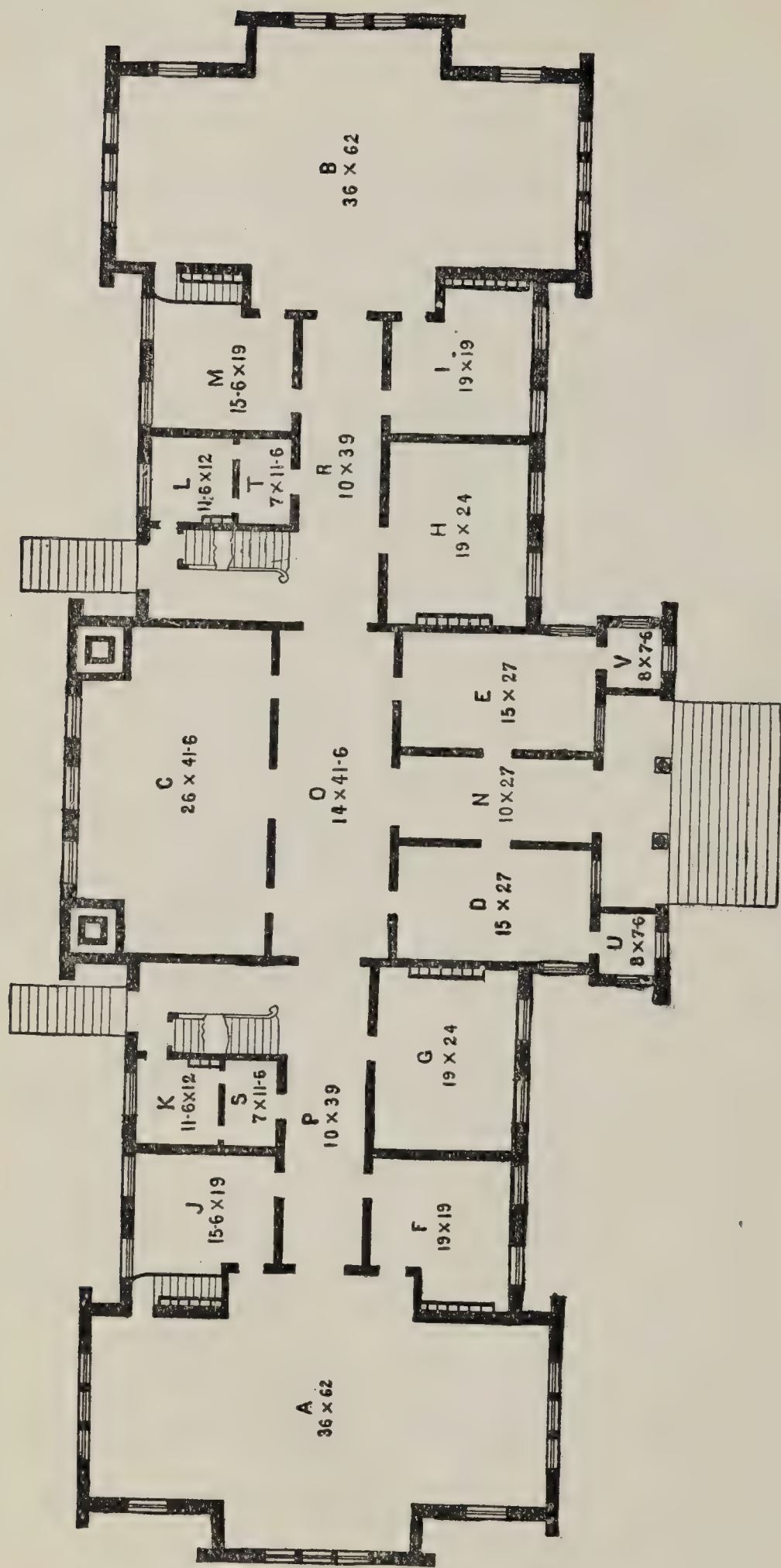
In the above course, *Mathematics* includes algebra, geometry (analytical and descriptive), trigonometry, calculus, and mechanics;

Physics, heat, light, and electricity;

Chemistry, the elements, blowpipe, and wet analysis;

Drawing, free-hand, perspective, projections, and working plans;

Language, German and French, in addition to English.



ACADEMIC BUILDING—FIRST FLOOR.

- A, J, F—Library.

B, I, M—Department of Mechanics.

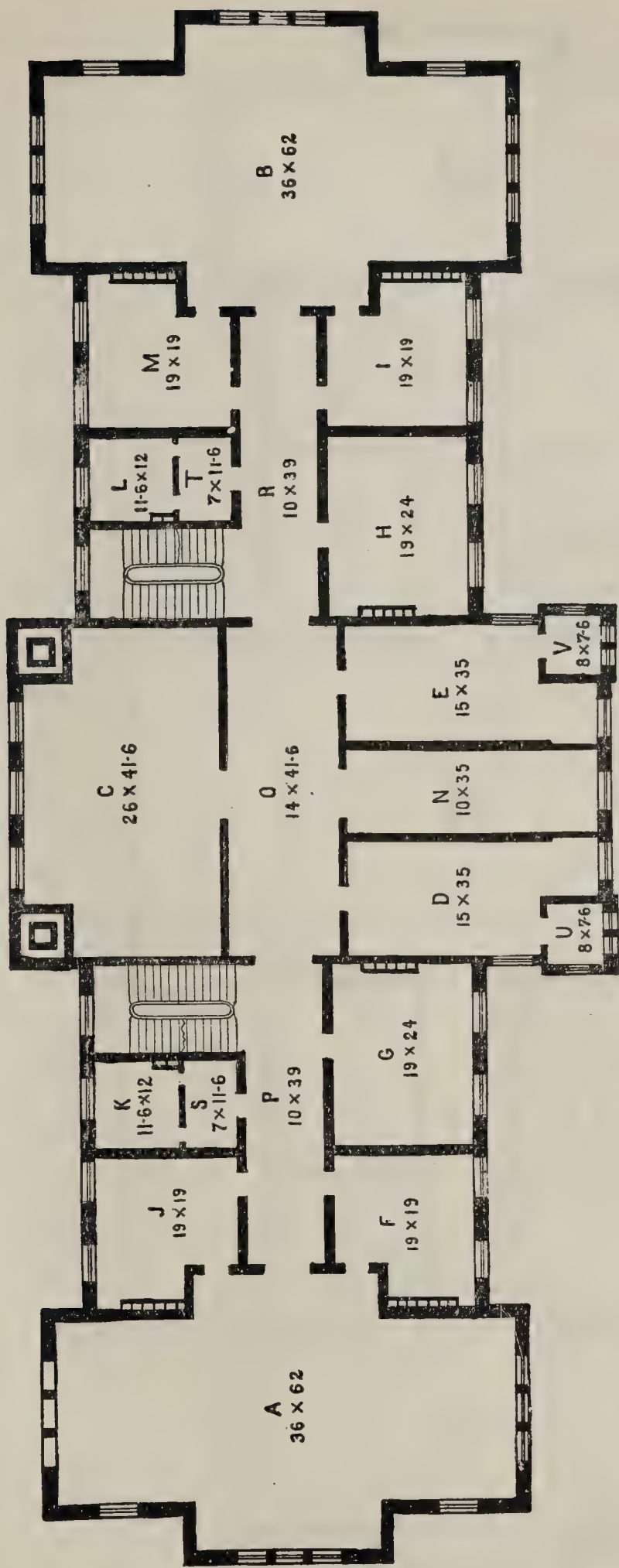
G, H—Recitation-Rooms.

C—Lecture-Room.
- D—President's Room.

E—Rose Reception Room.

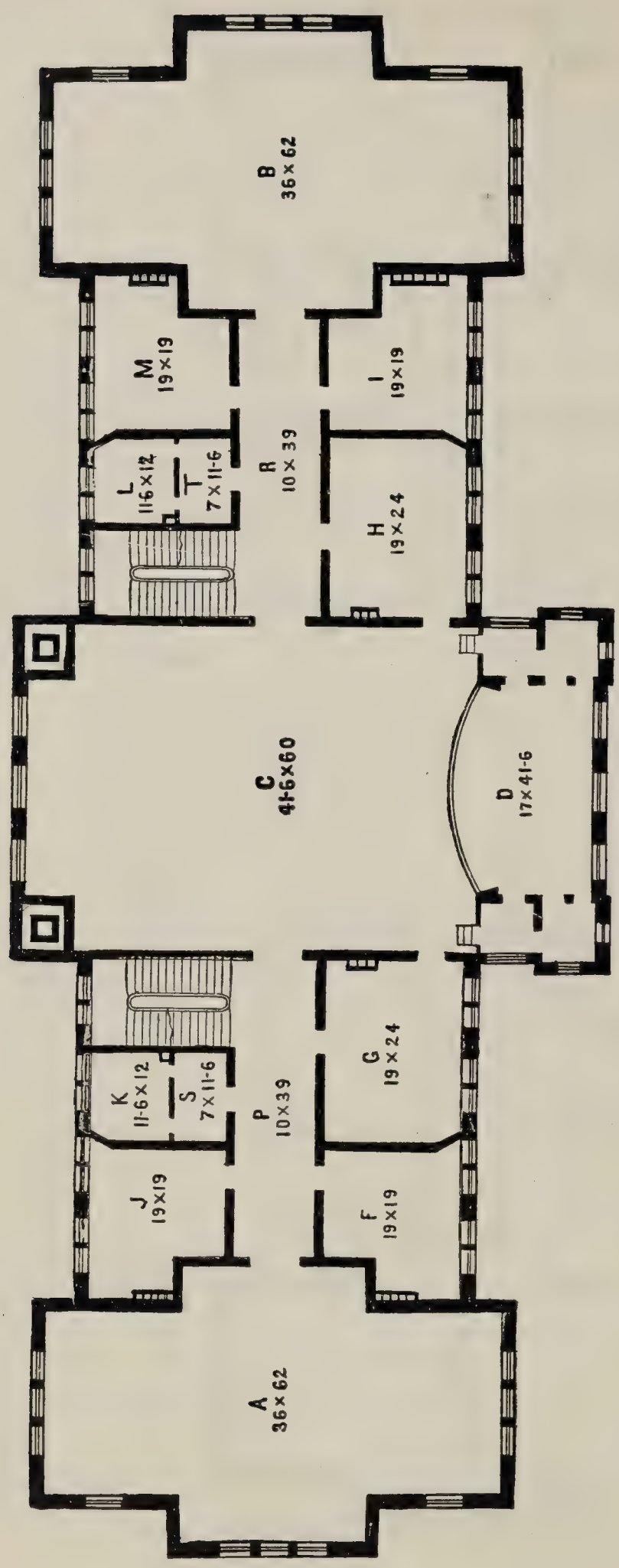
K, L, S, T—Closets.

P, O, R, N—Corridors.



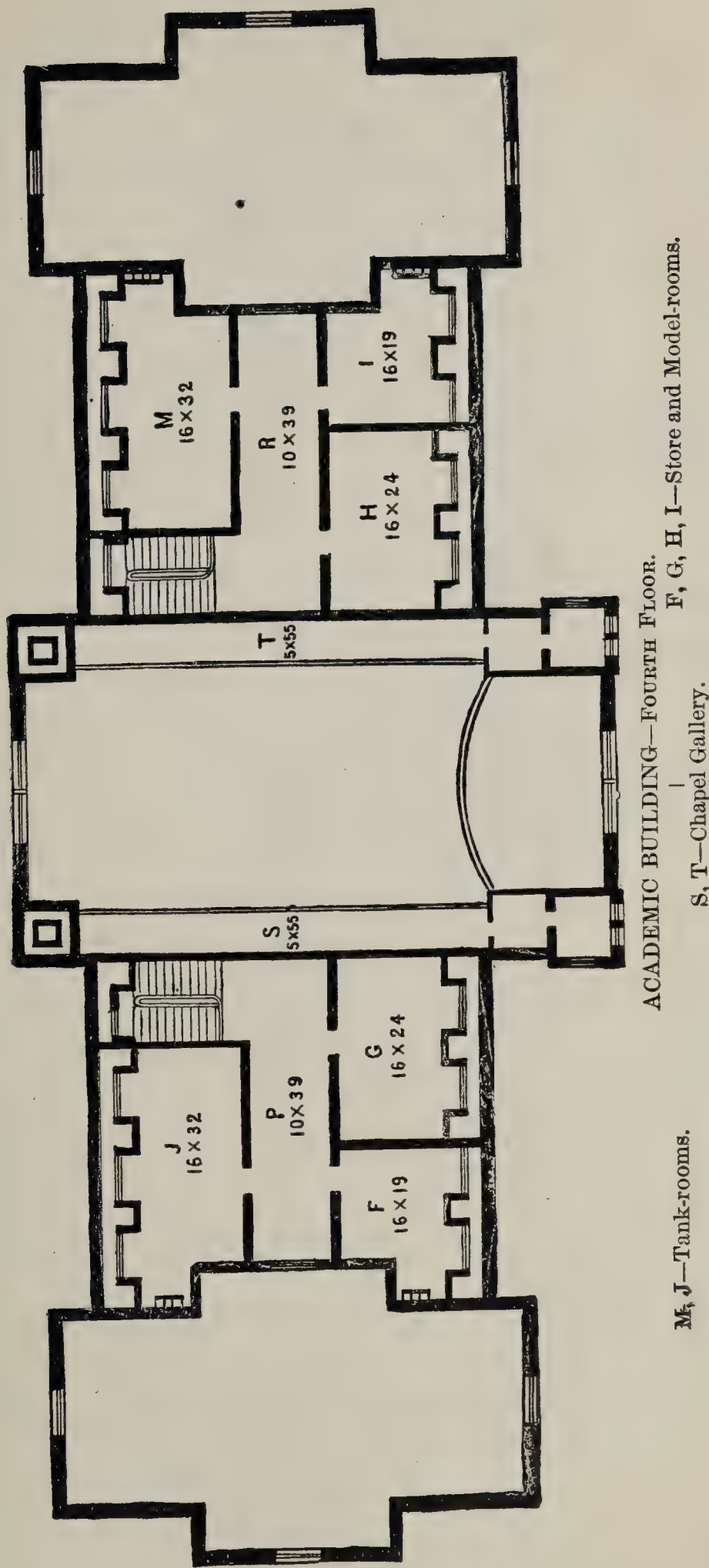
ACADEMIC BUILDING—SECOND FLOOR.

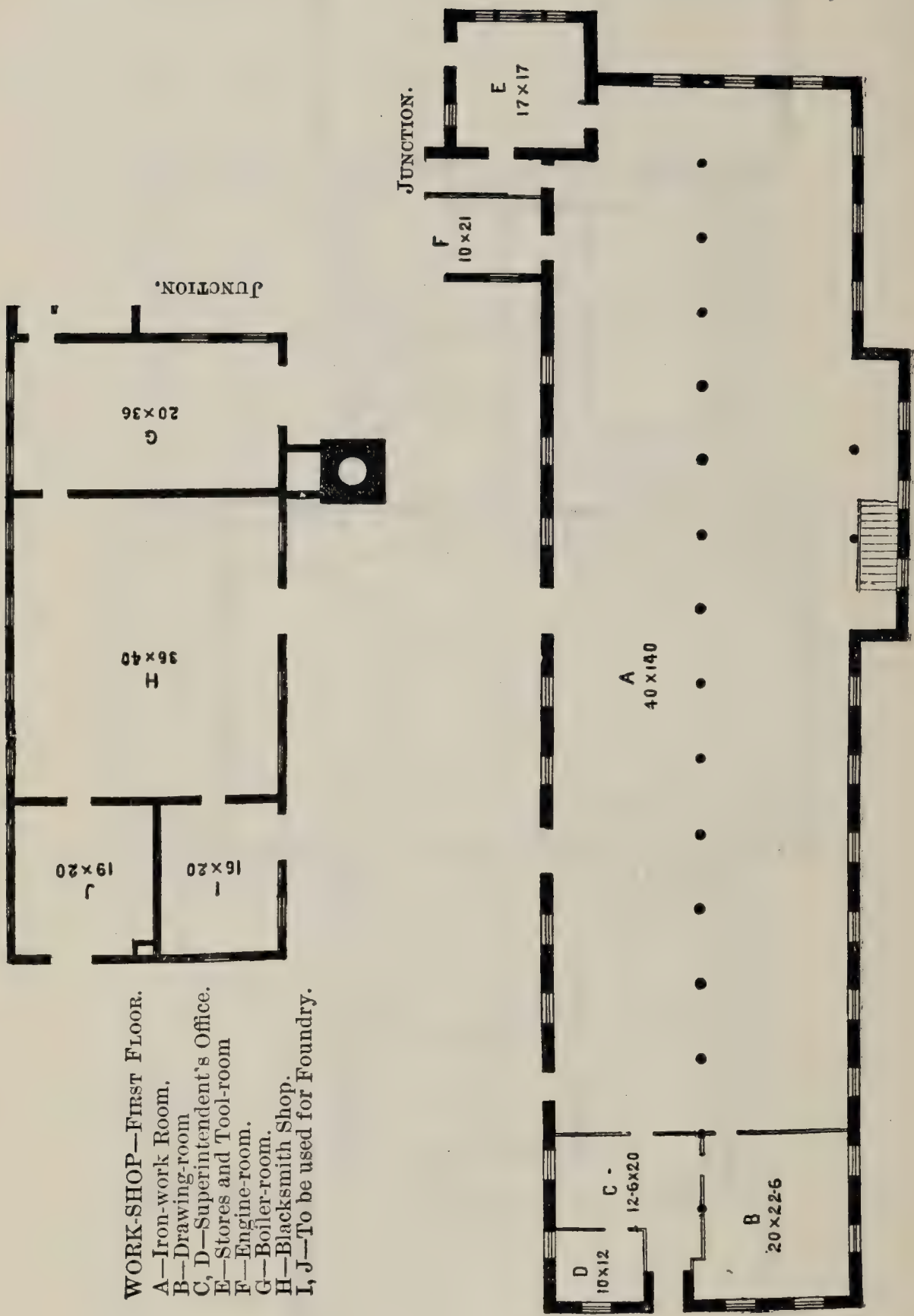
- J, K, F—Department of Physics.
- B, I, M—Department of Drawing.
- C—Department of Civil Engineering.
- E, D, G, H—Recitation-Rooms.
- K, L, S, T, U, V—Closets.
- N—Hat and Coat Room.



ACADEMIC BUILDING—THIRD FLOOR.

A, J, F—Mineralogy and Cabinet.	B—Museum of Mechanical Models.
C, D—Chapel.	K, L, S, T—Closets.
	G, H, I, M—Recitation-room.







They are scattered about in every direction in rich profusion, here, there, and everywhere.

The founder of this institution was anxious that the young men of this State, and especially those of this vicinity, should not fall behind in any sphere of duty to which they might be called. And, desiring them to perform their share in the great work of the future, he established this school as the means of enabling them to do it manfully and well. It is a gift to the country, and a legacy to them worth more than gold. It is a priceless inheritance.

[The speaker's appreciative eulogy of the founder of this institution is printed elsewhere.]

GEN. JOHN EATON, U. S. Commissioner of Education:

The managers of Mr. Rose's trust have made haste slowly. The problems upon whose solution his great purpose depends for success are not all solved. The two great worlds of capital and labor, so often in danger of arraying themselves in conflict, are bringing all the forces at command for their solution. These considerate officers have sought to take advantage of what has been done. They have selected for president one well known for his capacity, alike for broad and precise scholarship and successful administration, who has brought a similar institution from its first planting to a high degree of merited success, and before putting his hand to the work here has taken time to visit and study again the conditions of educational progress, general and special, in its great centers and most instructive aspects in Great Britain and on the continent of Europe.

The Polytechnic school has its own work to do in this community and this State. We have passed the time of frontier life, rude, vigorous, and poor. We have a great population, a various industry, enormous natural resources to use wisely and provide for shrewdly. The loneliness, the privations, the dangers of early times are gone with the free land, the forest, the deer, and the panther; the frontiers of our speech and our civilization are now at the Rio Grande and the Athabasca. The work of four generations has made the Ohio valley and the lake region more populous, more accessible, more rich than all the thirteen colonies that fringed the Atlantic coast a century ago. Our wants, our tastes, our objects have changed as much as the circumstances of our life. We wish for comfort as well as shelter, for tasteful as much as warm apparel, for various as well as sufficient food, for mental as much as bodily nutriment. The defective, dependent, and delinquent classes of our population are better fed, lodged, clothed, and instructed than the pioneers of the old time. The soil must produce more and better food without losing fertility; the earth must yield its coal, iron, lead, and copper for the arts of peace and the uses of war; the waters must bear craft of which our forefathers never dreamed, and must be curbed so that the fields and homes of our people shall not be submerged; the electric fluid must carry, not only the verbal, but the oral messages of our intercourse. The waste, the ignorance, the carelessness of the past are doomed. The problem for the new age is to perfect every appliance for man's progress over land and wave, his comfort as well as his necessities, his enjoyment as well as his life.

The Rose Polytechnic Institute to-day takes its place in this array of great schools of science, technology, and industry. It has wrapped up in its plans untold blessings for the community in which it is established. It is one of a trio of somewhat similar institutions, Pardue University and the University of Illinois, which, together with itself may be said to stand at the angles of a limited triangle whose lines may draw them into a proximity calculated to awaken the sensitiveness of some minds; but each of these institutions in its local approaches can only create a healthy emulation. Each and all are under national demands to do their utmost,

not alone to learning, to science, to the arts and trades, and citizenship, but to general education.

The many demands at Washington have prompted the Senate to call for a special report on industrial education in the United States.* The Bureau of Education seeking according to the measure of its means to answer these demands, has printed the preliminary report of the English commission, and has issued a small circular on instruction in the minor arts, for which a single mail brought requests for over six thousand copies. Another extended report is in progress on drawing and instruction in art.

You may remember the story that Prof. Roscoe told of a visit to a technological school in the French city of Rouen, where he was shown a museum of natural objects. The Englishman saw among the articles a German helmet, and asked, "Do you call that a natural object?" "No," said the French director, "but it plays a very important part in our teaching. When our young men seem lax and indifferent, I put this helmet on the table before them, and say, 'Gentlemen, look at that helmet. You know how it came here; you know that the wearers of those helmets stripped France of her fairest provinces from the Alps to the British channel, and humiliated us in our city of Rouen; you know also that they were able to do these things because they were more intelligent than we Frenchmen were. Do you wish them to do it again?' Nothing quickens the industry of my students as that helmet does."

DR. MOSS, President of the State University, extended a cordial welcome to Dr. Thompson, as the head of a new institution, which was needed to complete the facilities of public instruction in Indiana.

EMERSON E. WHITE, LL.D., President of Purdue University:

While I should much have enjoyed the privilege of being a silent listener, the occasion makes speech easy, since it affords me an opportunity to welcome to Indiana my friend, Dr. Charles O. Thompson, who this day assumes the direction of one of the most important educational enterprises in the West. He comes here to try no new experiment, but to organize and direct an institution, all the elements of whose success are familiar to him—he comes an organizer, who sees the end from the beginning. I join most heartily with President Moss in welcoming so distinguished a representative of higher technical education to this noble commonwealth, whose vast industrial resources are waiting for the touch of technical science and skill to turn them into fabulous wealth. I have watched the work of Dr. Thompson for years, and his acceptance of the presidency of this important technical institution is, to my mind, a full assurance of its success. I stand in this presence as the representative of Purdue University, an institution founded by Congress for the benefit of agriculture and the mechanic arts, and I assume no prophetic forecast when I express the belief that there is to be no unpleasant rivalry between the two institutions. The success of Rose Polytechnic Institute will emphasize the practical importance of technical training, and it will thus create a wider appreciation of the special work for which Purdue University was founded.

It is becoming more and more evident that the railroad, the steamship, and the telegraph have destroyed our industrial isolation, and that the American artisan must successfully compete with European workmen in skill or retire from the shop and surrender the market. The day of mere muscle in industry has passed, and the day of mind, with skill of eye and hand, has dawned. It may be well for a time to put legal barriers

* The Commissioner of Education might have added that a preliminary work in this line had already been done by his predecessor in the Department of Education, in advance of any demand of Senate or House—although a second edition of his report of 800 pages was printed by order of the House in 1870.

between American industry and foreign competition, but in the end we must depend on equal technical knowledge and skill. What our vast resources most need is the touch of science and technical power, and hence the technical school is the prime factor in the problem of American industry. This is the great industrial lesson which the people of this country are beginning to learn, and not a day too soon. Thought in the brain of the workmen has been the source of our marvelous material development. It has been the parent of invention, which has already wrought a revolution in nearly all departments of human industry.

Forty years ago, the father and his sons, with sickle in hand, filed into the wheat-field, and handful by handful laid it in sheaves. A thoughtful reaper, with aching back, asked himself the question, "Why cannot I give my fingers to my scythe?" The answer was the invention of the old square-cornered cradle, with which the harvest hand could cut two acres of grain with less weariness than he had cut a half-acre with a sickle. Another thinking workman, with aching arm, asked himself the question, "What is the use of so much timber?" and he rounded the corner, inventing the "muly" cradle, with which the harvester could cut half an acre of grain more daily, and with less weariness than before.

But the sickle long since disappeared from the harvest field, and is now kept only as a relic of other days; the old square-cornered cradle hangs on a dying peach tree, with a single finger left; and the "muly" cradle is only kept to pick up lodged places and cut out corners. When the harvest waves its golden welcome to the joyous farmer, out from the stable come fat horses, and, attached to wondrous reaper and self-binder, round and round the field they go, leaving the grain in well-bound sheaves. Here is progress in farming as the industrial result of thought power. Thought in the brain of labor is the alchemy that is turning everything it touches into gold.

BARNABAS C. HOBBS, LL.D., one of the original incorporators of the Institute of Industrial Science, and a Trustee of the State Normal School at Terre Haute:

Several years before his death I was a guest of Mr. Rose, during the session of a State Educational Association, when the conversation turned on the ways in which he might do some good with his money, out of which came authority for me to designate twelve, and afterwards fourteen, and finally twenty young women who needed help to enable them to continue their residence in the Normal School to complete the course of instruction and training. This step required the expenditure of at least \$5,000 a year.

In a subsequent interview the desirability of a boarding-house with an endowment fund, as part of the equipment of the Normal School, by which competent young women who found it difficult to meet the expenses of a prolonged residence might be materially reduced was discussed, and Mr. Rose authorized an offer on his part to the Legislature, through the Governor of \$100,000, on condition that the State would pay one-half the cost of building. No notice even was taken of the offer, and Mr. Rose came to the conclusion that politicians were not the best persons to have control of educational institutions or trust funds. To his inquiries how business men could be trained so as to make their own plans and specifications for ordinary constructions, without running to lawyers and architects, I answered, "by being educated in a technological school and in industrial drawing," and referred him to the Worcester Institute as a good model, and to Prof. Thompson for the requisite information as to details. Prof. Thompson's Reports, with whatever suggestions Mr. Rose received from other sources and friends, and particularly from his old friend Josephus Collett, and the utter ignoring by the Legislature of the offer of an endowment fund to the State Normal School, led to the provision in his will for a polytechnic school, and the foundation in his lifetime of a suitable building.

Inaugural Address of President Thompson.

CHARLES O. THOMPSON, PH.D, President of the Faculty of Instruction in Rose Polytechnic Institute, receiving the keys of the Institute by authority of the Board of Managers, acknowledged briefly his thanks for the confidence implied in his selection to preside over the instruction for which the building, and equipment, and instructors had been so liberally provided, and passed to the work to be done.

Technology and its Schools.

The Rose Polytechnic Institute is a school of technology. This phrase describes all those forms of training youth which deal with the application of art or of science to the industrial arts. Those schools in which designing for the patterns of textile fabrics, or for the decoration of wood, iron, pottery, gems, etc., is the principal end, are called art schools, or schools of design, of which the South Kensington system is the most famous example; all those in which the principles of physical science are studied with reference to their application to the solution of practical problems in building, machine construction, and design, or in civil engineering, are called polytechnic or technological schools.

There is great confusion just now in the use of terms, technical education being used to describe all that which aims at a directly practical end as opposed to the education given at the college; while that part of it which does not deal with ornament or textile design is sometimes described by the same term. The word technology, which formerly signified the terms used in the sciences, now means the application of the sciences to industrial ends. The term polytechnic, originally used to describe schools of technology, has refused to yield to the more desirable synonym, technological, partly because it is an easier word, and partly because it contains a suggestion of the many-sidedness of the subject which the better word lacks. There is no good word corresponding to polytechnic or technological to apply to the persons who practice the profession indicated, and so these persons are called, now as always, engineers, and the business engineering. A few still cling to the term scientific schools in speaking of these institutions. In the present prevailing confusion of terms the best that can be said is that a polytechnic school teaches technology to engineers. Below the grade of the polytechnic there are multitudes of schools and parts of schools that teach the elements of the mechanic arts, many of them of the greatest interest and importance, and around it are many institutions that devote themselves to industrial art; but I must deny myself the pleasure of discussing any of these, with the important collateral questions of policy that they present, and proceed at once to the school we have in hand—the polytechnic. We shall find that all schools of technology, under whatever names, or with whatever special aims, present a common system of instruction, complete in itself, with strenuous requisitions, a logical curriculum, and a sharply defined end.

Technology is essentially a new idea; it is certainly no older in its present aspects than the discovery of the law of the conservation of energy, the great idea of the present century. No discovery since that of gravitation has been so stimulating or so powerful. Its influence is incalculable. It is seen in the multiplication of labor-saving machinery for every form of work, the great array of useful inventions, the expansion of the system of land and ocean highways, and especially in the immense increase of the means for acquiring knowledge. This demand for economy of force and material has brought about great changes in the industrial arts; the apprentice system has disappeared; the necessities of life being made by machinery, manual trades are no longer needed for that end, and skilled handicraft is a rare accomplishment. There is

and there will always be a demand for skilled labor in the arts of building-construction, in pattern-making and similar forms of wood-work, in die-sinking and kindred arts that deal with the metals, and especially in assembling and finishing the parts of structures as they are delivered from machines; but this is a small demand compared with what existed when shoes, clothes, furniture, and tools were made by hand. The mechanic of the future will be a machinist. To such an extent is this replacement of handicraft by machinery true that we have shoemakers who cannot make a shoe, chairmakers who cannot make a chair, and, generally, artisans ignorant of the whole of any art.

Another result of the economy of force is that attention is concentrated now more upon the principles of phenomena than upon the phenomena themselves. Formerly, the only hope of finding a better or cheaper way of doing things lay in the chance discoveries of ingenious men—men looked at things from the outside in; now it is seen that nothing is so fruitful and that nothing so advances human interests as a principle,—men look at things more from the inside out. For nearly all mechanical ways of doing things were once regarded as out of the ordinary course of human affairs, and to be relegated, if not to the domain of the supernatural, at least to that of the superhuman. The feeling towards scientific investigation as a means to practical ends partook of the same quality that infested men's views of disease; if typhoid fever prevailed in a given district the people did not look to their drains and wells, but flocked to church and appointed a day of fasting. What were regarded as the pardonable vagaries of Daniel Treadwell, Rumford professor in Harvard University, turn out now to be the inventions upon which single-track railroads, the machinery for spinning cordage-yarn, the Armstrong, Blakely, and Krupp cannon depend. I will venture, however, the assertion that no person in this audience ever heard before of these great inventions as Treadwell's. They came too soon for the world to know them as works of genius; yet they are the first fruits of the new era in which great problems are solved, not by happy inventions of geniuses, real or affected, but by the sober and steady application of laborious scholars of established principles of physics.

When a new invention is made nowadays, machinery for it is as important as the invention itself. Perhaps the most striking illustration of the change in common things which has been brought about by technology is the rail on which railway traffic is conducted. Formerly, it was an iron-edge rail, supported by chains, and having more iron in the base than the head. Clumsy as this rail was, it was claimed to be the only form in which the only available metal could be used for the purpose; now the rail is made of steel, with well-defined tread, web, and base, the principal weight of metal in the head, where it is most needed, and every line subjected to the finest physical tests. To those who know how much of the best knowledge we have of physics and chemistry has been put, and is still put in a railroad rail, it seems one of the most interesting of all modern manufactures.

Engineering is the term that includes all the arts of production and construction which arise from the physical sciences. Its object is to bend the forces of nature to the service of man. The names applied to the different branches of engineering are not always appropriate, but, in general, a civil engineer constructs public works, such as highways, railroads, water works, sewers, etc.; a mechanical engineer deals with machinery, from the original design of each part, through the machine shop and into the structure, and to the operation of the structure, i. e., the machine; the chemical engineer applies chemistry to the manifold products that result from the play of chemism. Then there are numerous fields which the term covers: as hydraulic, steam, gas, electrical engineering. In each and all, the engineer is distinct from the artisan or craftsman by exactly the amount of his knowledge of the scientific prin-

principles which underlie the practice of his profession and his resulting ability to apply those principles to the ready and complete solution of real problems as they arise.

The theoretical knowledge of physics and the practical command of machinery must come together; if this happy conjunction occur in one and the same man, the best results follow. Then the same affluent good comes forth in the domain of mechanics that abounded in the middle ages, where the artist and artisan are one, when Peter Vischer and Quentin Matsys worked at blacksmithing, and Michael Angelo cut stone, and Benvenuto Cellini hammered silver and gold, each touching the iron, or the stone, or the silver with a beauty and value that all the ages since have only enhanced.

No graduate of any school is at that time an engineer. The qualities of good judgment and efficient reason grow only in the atmosphere of experience. Hence no diploma can be regarded as meaning anything more than that the possessor has passed successfully the examinations that are set at any particular school. Graduates should begin at the bottom of their profession, and their school training will tell best and most effectively in the rate of their advancement. They will advance more rapidly than others along the lines which are determined by their natural aptitudes.

The Almighty makes superintendents and leaders of men—no school can do this. But the training required for a superintendent must be that of his subordinates. All the best experience of the world sanctions this rule. A superintendent who has not had the training of the shop is as useless as Achilles without his weapons—he may seem and assume to direct and to lead, but he does not; on the other hand, the man who attempts to lead without natural leadership, however wise, is as useless as the weapons without Achilles.

The first independent polytechnic school was the Ecole Polytechnique in Paris, founded in 1794. The Ecole Centrale followed, and during the first quarter of this century similar schools were established all over France, Switzerland, and Germany.

The course of study in a polytechnic school is determined by long experience, and in all countries is substantially the same. It includes

Mathematics—Beginning with algebra and geometry, and proceeding through trigonometry, analytical and descriptive geometry, the calculus, theoretical and applied mechanics.

Physics—From the elements to the solution of problems, sometimes with laboratory practice.

Chemistry—With laboratory practice.

Language—The elements of German and French (English replacing one of these in European schools), and the mother tongue.

Drawing—Beginning with free hand and including perspective, orthographic, and isometric projection, shades, and shadows.

Geology and mineralogy as far as time permits. The other natural history sciences are necessarily omitted, except in special cases. In all these schools, the instruction is given with a strong practical bearing, and generally the students learn the manipulation of the instruments used in surveying, and the more important of those used in physical researches.

It is necessary to remark at this point that technological schools do not include schools of design. There is a great interest in European countries and in the United States at the present time in what is called industrial art, meaning the study of form, color, and ornament, to render structures and manufactured goods intrinsically more beautiful, and to increase their value by this means. A department of drawing and design has a place in a school of technology, but engineering does not naturally include the work of a school of design.

Worcester Institute of Technology.

The demand for mechanical engineers with workshop training, and the practical impossibility of finding a place for a boy in any good machine shop, led to the establishment of a polytechnic school in which a manufacturing machine shop is a prominent and thoroughly administered feature. This is the school known as the Worcester Free Institute.

This institution was organized under the influence of a belief that, after all that has been done in technology, there is still need of a system of training boys broader and brighter than "learning a trade," and more simple and direct than the so-called "liberal education;" that while the boys should be thoroughly trained in all the essentials of a polytechnic course, they should also find a workshop open where they could get all the essentials of a trade; so that upon graduating they should have sufficient knowledge of machinery and handicraft to enable them to earn a living while pushing their way up to the highest positions for which nature and their training had qualified them. It was held that "the connection of academic culture and the practical application of science is advantageous to both, in a school where these objects are started together and carried on with harmony and equal prominence. The academy inspires its intelligence into the work of the shop, and the shop with eyes open to the improvements of productive industries prevents the monastic dreams and shortness of vision that sometimes paralyze the profound learning of the college."

This school was opened in 1868, with the following fundamental ideas:

1. That all mechanical engineers will find their account, in future, in going through a workshop training.
2. This workshop instruction may precede, accompany, or follow the intellectual training, but for many reasons it preferably accompanies it.
3. The workshop instruction is best given in a genuine manufacturing machine shop, where work is done that is to be sold in open market and in unprotected competition with the products of other shops.
4. That in a course of three and a half years, working 800 hours the first half year, and 500 hours a year thereafter, a boy beginning without any knowledge of mechanics can acquire skill enough to offer himself at graduation as a journeyman, and will be found on trial not inferior to those who have spent the entire time of three and a half years in a regular machine shop.
5. That the workshop practice must be a part of every week's work in the institution; that it shall be momentarily supervised by skillful men, and that the student must not expect or receive any pecuniary advantage from it.
6. That the question who shall be a superintendent, or foreman, or engineer engaged in designing or drafting machinery cannot be settled in any school—that being a question to be determined only by actual trial, because the discipline of the judgment by actual practice into which personal responsibility enters is vitally essential to a valid claim to the post of superintendent. Hence, it will follow that, while all receive the preliminary training requisite for engineering, many will not attain to it, but these will find a full reward for all their time and labor in superior intelligence as workmen—in being masters and not servants of the machines which they make or run.
7. A seventh principle was announced when the first class graduated, and has been inculcated into all their successors, viz.: that the value of the education they have received will show itself in the rate of their advancement, and will be easily detected by their employers, and that they should not be so much concerned in seeking places, about great wages or high positions as about the chances ahead for advancement; indeed, there might be cases in which they could well afford to work a while for a bare subsistence, such would be the value of their experience.

Workshop Instruction.

Upon the question whether workshop instruction should precede, accompany, or follow the school training, opinions differ, and a full discussion of the subject is impossible within the limits of this address. This subject occupied the attention of the American Institute of mining engineers through two prolonged and intensely active sessions in 1876, and the results are embodied in a valuable pamphlet which presents the views of the ablest engineers in the country. I will briefly summarize the facts and motives which seem to leave us practically no alternative but to incorporate the shop practice with the school-work. Boys fitting for a polytechnic school cannot leave the preparatory school younger than sixteen; if they are to get their shop-training before the polytechnic, they must spend three years at it, and at the end of the time they will be rather too old to get the best advantage of the school, and miss the all-important opportunity of applying their theoretical knowledge as they go along.

If, on the other hand, boys defer the shop till after graduating, they will find many excuses for slighting it or for not doing it at all. At the age of twenty, with a good knowledge of drafting and well-disciplined faculties, American boys would be far more likely to turn into draftsmen or to take their chances in business than to submit to the dull routine of elementary shop-practice. Theoretically, there is much to be said in favor of this plan, for it brings to the workshop the trained powers of the school, and makes the practice continuous. It is the plan of the Russians, in the Imperial Institute of Technology at St. Petersburg, certainly one of the best technological schools in the world, where the students, after a four-years course in pure technology, with the usual holidays and vacations, return on the first day of September and work in the machine shops till the first day of the following September, ten hours a day without vacations, and the results are very satisfactory. But the Russians can carry out such a system because the government controls the positions to which the students aspire and without which they must starve, and makes the fifth year of practice compulsory. Very few who have had much experience in teaching American boys believe that such a plan could be successfully adopted here.

There are as many solid, positive reasons in favor of incorporating the shop-practice with the intellectual discipline. The period of a boy's life between sixteen and twenty-one is the period of sharp acquisition; ideas taken then remain, in a special sense, a part of the mental furniture forever. Probably no one whose course of education is uninterrupted acquires as much as between the ages mentioned, or retains what he acquires as long. It is an interesting fact that the enthusiasm which an American boy cherishes for his college, an English boy feels for his school, where the training he most values was received. The American hurrahs for Yale or Harvard—the English for Eton or Rugby. The same would be true here were all our boys fitted for college at a few large schools, and fitted as well. This being true, shop-practice has an advantage it would otherwise lose in coming into this period.

Again, a man whose matured and furnished mind has laid hold of the strong problems of theoretical mathematics in school, and who finds himself on the threshold of manhood does not bend himself with just the same ease as an undergraduate to the elements of machine-shop practice. There is some advantage, too, in beginning shop-life in periods of five hours semi-weekly over ten hours a day; for less time proportionally is wasted. And finally, a great economy of the precious time of the students is secured, because shop-work serves the double purpose of practice and of exercise.

The advantage of a shop in which actual construction is made to aid in instruction are numerous. A few only can be mentioned. These boys are all hoping to be engineers; at least, they may expect to become

skilled workmen or draughtsmen. In any event, the more the faculty of judgment is cultivated, and the more the boys realize the nature and extent of the difficulties that actual practice presents, of which the best theoretical knowledge gives no hint, the nearer they are to attaining the end they seek. We have seen that no graduate of a school is an engineer, but is in the best way to become one. Why not advance him as far as possible? If now the student's comprehension of the principles of engineering is clear, and his weekly practice enables him to see those principles in action under conditions as like as possible to those which he will meet in real life, his entrance upon the life of an engineer will be an expansion of his school life, and not an abrupt transition from it to a new mode of life. The more his work is subjected to the inexorable tests of business, and the more he feels in the use of his materials just the same responsibility that rests upon an actual workman, the better he is. He must make the things that are to be used, and not those contrived to suit the peculiarities of his temperament, the exigencies of his situation, or the mere purpose of instruction. There is nothing that a student needs to make in a school workshop from which he cannot gain something if he puts the article into its final serviceable form.

Applying the stern test of serviceableness is the only way to know whether the things that have been made were worth the making or not, and is the only way to correct any tendency to visionary structure, that is so apt to infect a school workshop, and to prevent that sublimation of common sense which is apt to ensue when responsibility for the correct use of costly materials is removed.

There is no merit or charm in work considered merely as work; to work to produce something that some one else wants and cannot make for himself and is able to pay for is the stimulus of industry. All work in school-shops, or any other, will ultimately obey this law, or else it will evaporate into exercise or sport.

Workshops into which the principle of construction does not enter are liable to exalt the importance of the purely literary aspect of mechanical knowledge. It is possible to know the five hundred and seven mechanical movements, to know the best cutting angles of saws, files, and edge tools and not be a mechanic or be in the way of becoming one. This kind of knowledge is useful, and attractive, and desirable when it is not offered as a substitute for the dexterity that can be obtained only by the use of the tools. It will not do to regard our ancestors, the skilled mechanics, as fools. There is still but one way to learn to file, and that is to file. The most expert filer I ever saw could not write his name. I do not think he could have filed any better had this simple accomplishment been added to his merits. He would have been a better and a happier and more useful man with more knowledge, but he did that one thing as well as it could be done at that time.

But this thought instantly suggests another of the greatest importance, viz.: handicraft occupies a constantly narrowing place in the mechanic arts; machinery a constantly widening one. Every year adds to the number of trades from which the machinist has driven the craftsman. It is clear, then, that no training of boys for the life of mechanics is complete which does not make them familiar with machinery and machine construction.

There is one demand sometimes made upon the school-shop which is unjust, namely, that it should pay its way. How can it pay its way when so large a part of its force is spent in teaching boys? If so many machine shops in this country, fitted up and managed with especial reference to money-making fail in business, or only make the ends meet by the most painful efforts, how can a shop one-half of whose effective force is spent in teaching boys, who cannot, for the first half of their time, produce anything salable, hope to pay its way? Teaching in school-shops costs, as teaching elsewhere costs.

Many difficulties have been met and overcome, and many more which

wore a threatening aspect ceased to be difficulties at all when the time came to deal with them. It is idle to spend time, therefore, in enumerating and discussing these difficulties. Those that remain are of trifling magnitude.

The fourth fundamental at Worcester is that, in a course of three and one-half years, a boy, by working 800 hours the first half-year, and 500 hours a year thereafter, can gain as much dexterity and be as fit to offer his services as a journeyman as he would be had he worked three and one-half years steadily in a modern machine-shop. The experience of two hundred graduates of the Worcester school and the opinions of the manufacturers in whose shops they have found employment, establish the fact. Some of the reasons for this somewhat paradoxical result are that in an ordinary machine-shop a boy must spend his time in his employer's interest, and not in his own, and only a small portion of that time is devoted to teaching him manipulation; in the school-shop the time is wholly used in teaching. Again, the student-apprentice is under daily training in school and comes to his work with alert faculties and acquisitive powers constantly growing stronger. This is especially true with reference to his weekly practice in free drawing, a study which tends to develop and train the sense of form and proportion, the very training that a mechanic most needs. And, again, the work of the student is done under the eye and with the ready assistance of a skilled workman, whose duty it is to teach him, by precept and example, all he can learn. Meantime, while he has been getting his manual dexterity, our student-mechanic has obtained a good education. The remaining principles require no further explanation.

It will now be asked, what may the graduates of this school expect to do? I reply what the graduates of the Worcester school have done.

Partners in business firms	-	-	-	-	-	-	-	-	-	-	-	-	23
*Superintendents	-	-	-	-	-	-	-	-	-	-	-	-	16
Chief Engineers	-	-	-	-	-	-	-	-	-	-	-	-	3
Division Engineers	-	-	-	-	-	-	-	-	-	-	-	-	5
Assistant Engineers	-	-	-	-	-	-	-	-	-	-	-	-	16
Civil Engineers	-	-	-	-	-	-	-	-	-	-	-	-	20
Draughtsmen	-	-	-	-	-	-	-	-	-	-	-	-	49
*Mechanical Engineers	-	-	-	-	-	-	-	-	-	-	-	-	10
*Machinists	-	-	-	-	-	-	-	-	-	-	-	-	13
Foremen	-	-	-	-	-	-	-	-	-	-	-	-	8
Teachers	-	-	-	-	-	-	-	-	-	-	-	-	17
Chemists	-	-	-	-	-	-	-	-	-	-	-	-	12
Advanced Students	-	-	-	-	-	-	-	-	-	-	-	-	4
Designers	-	-	-	-	-	-	-	-	-	-	-	-	5
Others, mostly engaged in manufactures	-	-	-	-	-	-	-	-	-	-	-	-	45
													246
Deceased	-	-	-	-	-	-	-	-	-	-	-	-	9
Total	-	-	-	-	-	-	-	-	-	-	-	-	255

More than ninety-five per cent. of the graduates are engaged in occupations for which their training at the Institute specially prepared them.

Modifications of Worcester Plan at Terre Haute.

In the Rose school the following modifications of the Worcester plan will be attempted:

1. The course of study will be four years, instead of three and a half.
2. The practice will be concentrated in the first year and diminished in the fourth, so as to allow time for more instruction in machine design.
3. While the same subjects will be taught, perhaps more attention will be given to the humanities.
4. A different view will be taken here of the profession of civil engineering from the one usually held. The young men who propose to be civil engineers will spend a part of their practice time in the machine-shop.

* Many of these are "Master Mechanics."

Civil engineering cannot easily be separated from mechanical, because the most important business of a civil engineer nowadays is not surveying and mapping, but bridge and building-construction, the setting of water-wheels and other engines, and such like undertakings which involve a knowledge of mechanics; so that two or three of the best so-called civil engineers in the country have given it as their judgment that a course in mechanics, including workshop-instruction, is the best way to prepare for the practice of civil engineering.

But, on the other hand, the building of new highways and railroads still goes on and calls for a certain number of young men who are expert in the use of the transit and level (especially in railroad problems), who know how to draw, and who understand mensuration; hence, training for this sort of employment cannot be neglected in a polytechnic school. It would conduce to clearness to call such work topographical engineering.

An added consideration of some weight in favor of retaining a distinct department of topographical engineering is that many of the young men who frequent technological schools have no taste or aptitude for mechanical work, and some have not the requisite physical vigor for it, whose fitness for success in field-work or in mapping is unquestionable. But it will be clearly advantageous to all to have some workshop practice. No changes will be made except such as reason and a large experience show to be desirable and advantageous to the student.

Other Departments beside Mechanics.

If what has now been said seems to have a too exclusive bearing upon the study and practice of mechanics, it is because this is the leading department, and presents the only novel and difficult features of our enterprise; but there will be departments of civil engineering, physics, chemistry, and design organized on the same general plan; the studies will be the same in all departments—the practice different according to the purpose for which it is intended. These departments naturally group themselves; for chemistry, physics, and drawing must be taught to mechanics, and the additional expense required to give practice in each of these departments to those who prefer it to mechanical practice is very small. The outlay required for civil engineering practice is justified by the demand. Later in our enterprise, a department of mining engineering may be organized; and in the department of physics special attention will be given to electrical engineering. All this will come about in due time. It will be observed, however, that only one kind of practice can be profitably taken by any student during the course.

If this account of the origin and method of the technological school be correct, it is obvious that it is no longer an experiment; that it fills a gap; that it is a natural, inevitable, every way desirable and welcome concomitant of modern civilization. It does for the industrial arts what the colleges have so well done for the learned professions by fitting men in a carefully-planned course of study for the intelligent discharge of their duties.

The polytechnic seeks to work as an ally of the old classical college, and hopes that her old friend may find something to her advantage in studying the economy of force which prevails in the methods and results of the new-comer. The polytechnic does not sustain any organic relation to the college such as the academy has on the one hand, and the professional school on the other; yet, in a deeper sense, it sustains a very important relation to it. Whatever tends to increase or foster the desire for knowledge tends at once to foster all institutions whose object is to promote knowledge. Every new institution tends to increase the interest in the old, provided the old are worthy. Of course, I do not mean by "new institutions" repetitions of old types, such as the multiplication of small colleges, for this is generally an evil rather than a good (except in new States), but I mean new institutions, like polytechnic schools, that strike their roots into new soils, and make what was once a desert blossom as the rose.

CHARLES OLIVER THOMPSON, A.M., PH.D., who entered formally into the office of president of the Rose Polytechnic Institute, on the 7th of March, 1883, was born September 25, 1836, in East Windsor, Connecticut, where his father, William Thompson, D.D., was then professor in the Connecticut Theological Seminary, since removed to Hartford in the same State. He was fitted for college in the East Windsor Academy, principally by Paul A. Chadbourne, who died recently in the presidency of the Massachusetts College of Agriculture, and who inspired his best pupils with something of his own vital force. He entered Dartmouth College in 1854, then under the presidency of Dr. Nathan Lord, and graduated as bachelor of arts in 1858 in good standing in all his studies, but with special proficiency in the department of chemistry and mechanical philosophy. He received his degree of Master of Arts in 1861, and Doctor of Philosophy in 1870.

Teaching was evidently Dr. Thompson's "destined end and way;" for while yet a pupil in East Windsor Academy, he served an apprenticeship for two winters in the district schools of his neighborhood, and followed it up in village schools of higher grade in Massachusetts during the long vacations of Dartmouth, made long, and still prolonged into the next term, to enable those who had a necessity or a calling that way, to meet the expenses of their education. By this willing apprenticeship, young Thompson trained himself to become a normal teacher in the higher walks of his profession. In September, 1858, he became principal of Peacham Academy in Vermont, and continued till November, 1864, with an interval of some months, which were devoted to practical work as surveyor and engineer, by which unconsciously he qualified himself to think and speak from actual experience as to the requirements for good work as civil engineer. In 1864, he was called to inaugurate the conversion of the old Cotting Academy of Arlington into the Cotting Public High School, preserving the classical element of the old New England Academy in the expansion of the English studies, which the public now demanded of the common schools, by bringing the advanced pupils of all the districts of the town into one common school in the center; and as there were not pupils enough from the town or from abroad for two institutions of the same grade in Arlington, the two were merged in one, and called the Cotting High School. Of this school Mr. Thompson was made principal, and he did his work of conversion and elevation thoroughly. While he kept up the English studies, so as to meet the highest expectations of parents who wished for their boys and girls a good practical education, he also prepared those who wished to go to college so thoroughly that they entered Harvard without conditions. This fixed the standard of classical scholarship for Arlington High School, so that its candidates, when recommended by the principal, are sure to pass at Harvard or elsewhere, as are the graduates of Andover or Exeter academies. This is the right sort of public high school.

In February, 1868, he was elected principal of the Worcester Free Institute of Industrial Science, and, besides filling the duties of pro-

fessor of chemistry, was charged with the inauguration of a scientific and practical course of instruction, which had then no recognized type or model in this country. After spending eight months in visiting institutions in Europe having the same general aim, he entered on his work in November of the same year, with a clear idea of what could be done and how to do it—the results of which are told elsewhere.

Dr. Thompson has recognized fully the duty which, Bacon says, every man owes to his profession, by responding promptly to all calls on his pen and voice to advance its interests.

Report

on Certain Basins and Streams in Somerville, Mass., 1872.

Evidence in Spark Arrester Case.

United States Circuit Court, District of Rhode Island. *Pike vs. Providence & Worcester Railroad.* 1874.

Report

on Drinkwater of City of Springfield, included in Report Water Commissioners. 1876.

Paper

on Action of Common Salt and other related Crystalline Salts in Wire-Drawing. Transactions American Institute Mining Engineers. 1881. Translated in *Annalen der Physik* *er Chemic.* 1882.

Paper

on Effect of Sewage on Iron. Transactions American Institute Mining Engineers. Vol. IX. Translated in *Revue Industrielle des Mines.* January, 1882.

Review of Greenleaf's Arithmetic.

Vermont School Journal, April, 1862.

Hints toward a Profession of Teaching.

Address before American Institute of Instruction, Boston, 1867.

Inaugural Address.

Worcester Free Institute. 1868.

Manual Labor and Use of Tools.

In Barnard's *American Journal of Education.* Vol. XXII, p. 259, 1869.

Paper on Drawing.

Printed by order of Legislature of Mass., 1870; again by Board of Education, 1871.

Scope and Method of Physical Science in the Common School.

State Teachers' Association, Boston, 1873. Reprinted in *N. Y. Ed. Journal*, Feb., 1873.

Technical Education.

Report for Vienna Exposition. 1873.

Segmentation.

Two articles in *Massachusetts Teacher.* March and April, 1874.

Dedicatory Address

at Cushing Academy, 1875.

Discussions on Technical Education

in American Institute of Mining Engineers. Philadelphia, 1876.

The Polytechnic School.

Before the American Institute of Instruction. 1876.

The Worcester Plan of Technical Education.

Paper at Louisville meeting of National Educational Association, 1877. Reprinted in *Forty-First Report of Massachusetts Board of Education.*

Military Academy.

Report of the Board of Examiners at West Point, 1877.

The Conservation of Pedagogic Energy.

Address in Department of Superintendence of National Educational Association, 1881. Reprinted in *Circular of Bureau of Education*, No. 3. 1881.

Handicraft in School.

Address before Massachusetts State Teachers' Association, Boston, 1879.

Robert Boyle.

Paper at semi-annual meeting of Am. Antiquarian Society. 1882. Vol. I, N. S., No. 1.

Annual Catalogues

of the Worcester Free Institute, from 1871 to 1882.

Technology and its Schools.

Inaugural Address at Terre Haute, March 7, 1883.

FRAMINGHAM STATE NORMAL SCHOOL.

HISTORICAL SKETCH.* BY REV. EBEN S. STEARNS.

BETWEEN the years A. D. 1820 and 1835, there appeared upon the stage a small class of intelligent, cultivated self-sacrificing men, with all the vigor and freshness of early manhood, who saw, as it were at a glance, how matters stood [in elementary schools]; deplored the educational decline; and began earnestly, and, in general wisely, to apply the remedy. An "Educational Revival," as our brother, the Orator, has aptly termed it, took place. The people began to see that a right education, widely diffused, would prove the glory of the State—nay more, was for her the only source of influence, power, and lasting greatness.

Time and present circumstances forbid us to speak in fitting terms of these Educational Revivalists, to portray their characters, and to recount the noble deeds which each performed. Indeed, thank God! many of them yet live; yet enjoy the rich fruits of their early labors; are yet able and ready to lend a helping hand to every good work†

Foremost, perhaps, among these pioneers, was JAMES G. CARTER, genial as a friend, accomplished as a teacher, ardent as a politician, who fought most manfully, and for a time nearly alone; and to whom it is believed, belongs the honor not only of starting the great reform, but of perceiving how essential to its completeness and permanent utility, would be the thorough, professional education of teachers under public supervision and at the public charge. His newspaper articles on popular education, from A. D. 1821 to '24,—his letters to Hon. William Prescott, LL. D., on the Free Schools of New England, with Remarks on the Principles of Instruction,—his Essays upon Popular Education, containing a particular examination of the schools of Massachusetts, and an outline for an Institution for the Education of Teachers,—his Memorial to the State Legislature in 1827, praying for aid to establish a Seminary for the Education of Teachers, with a Model School attached,—his efforts in Lancaster, his native town, to carry out the school as a private enterprise,—his activity and influence in founding the "American Institute of Instruction" in 1829-30, that noble society which for thirty years has been a source of life to the educational interests of the country,—his unremitted labors as a politician in behalf of Popular Education,—his successful introduction of a bill establishing the Board of Education,—the detraction, persecution and financial disasters he encountered in the advocacy of his schemes,—all these entitle James G. Carter to a most honorable mention.

There were WILLIAM C. WOODBRIDGE, a teacher and the son of a teacher, distinguished as a geographer and editor of the *Annals of Education* and other works,—and SAMUEL R. HALL, for many years a teacher of teachers, and in 1829, the founder, at Andover, of a Seminary for Teachers—the first regular seminary in this country designed for such an object—a genuine Normal School,

* Abridged from an Address delivered at the Quarter Centennial Celebration of State Normal Schools in America, at Framingham, July, 1864.

† Memoirs of the Educational Labors of James G. Carter, William C. Woodbridge, Samuel R. Hall, Thomas H. Gallaudet, William A. Alcott, Horace Mann, Samuel Lewis, Walter R. Johnson, Josiah Holbrook, Cyrus Peirce, Samuel J. May, George B. Emerson, Charles Brooks, Edmund Dwight, William Russell, Edward Everett, Francis Wayland, Warren Colburn, Mrs. Emma Willard, Nicholas Tillinghast, and other laborers in the educational field from 1825 to 1850, have appeared in *Barnard's American Journal of Education*, and are gathered into *American Educational Biography*, vols. I. and II.

though not of State patronage or adoption,—and GARDNER B. PERRY, of Bradford, a modest country clergyman, in early life a teacher of a distinguished literary institution, who through a long and able life labored as he found opportunity, to promote popular education.

There, too, were THOMAS H. GALLAUDET, the skilful, devoted instructor of the deaf and dumb, who made the dull ear to hear of the wonders of the creation, and the tongue of the dumb to sing the praises of God,—and WILLIAM A. ALCOTT, the eccentric physician and educator and author of many good books.

HORACE MANN, the first Secretary of the Board of Education, came late into the work, [1837] but brought with him all the powerful energies of his mature life; all the learning, culture and acumen which had distinguished him at the bar; all the knowledge of human nature and skill in management which made him successful as a politician; and all the influence which he had acquired among the people. Withdrawing himself from less laborious and far more lucrative occupations, he gave himself, soul and body, to the great enterprise. Of his earnest, self-sacrificing devotion, of his indomitable perseverance amid opposition and reproach, of his enormous personal labors, we cannot here speak. The prime agent in establishing the Board of Education, its *soul* as well as its Secretary, he was the establisher of *this* school, and its most earnest and constant friend, so long as it continued within his reach; and but for him it would have died for want of that mere pittance on which so much of its life has been supported, and which, again and again, he secured.

Prominent among these was EDMUND DWIGHT, the merchant prince, as unostentatious as munificent, whose open purse enabled the Secretary to live, which State patronage alone never could have done; and whose timely gift of \$10,000 to the State of Massachusetts, presented March 10, 1838, secured from its Legislature a corresponding grant; and was, as Mr. MANN has expressed it, “the origin, the source, the *punctum saliens* of the Normal Schools of Massachusetts.”

But time fails me to speak of SAMUEL LEWIS, WALTER JOHNSON, JOSIAH HOLBROOK, JOHN A. SHAW, and a host of others. These and many more rest from their labors and their works do follow them.

We have yet with us, thank God! WILLIAM RUSSELL, the Educational journalist and associate of Woodbridge, whose native grace and charming elocution were as attractive as his pen was persuasive, and whose whole life has been spent in urging forward the work of popular education:

SAMUEL J. MAY, the accomplished orator of this occasion, and the second Principal of this Institution; the record of whose life is self-sacrifice, and earnest, unremitting endeavor in every good word and work designed to benefit mankind:

CHARLES BROOKS, whose labors in the years 1835-6-7, were second to those of no man—one might almost say to no number of men—to whom we owe the particular *form* which Normal Schools took, and who did very much toward preparing the public mind to look with favor upon the new system; who, beginning with his own parish in Hingham, for the space of three years, without compensation or payment of expenses, traveled over New England, lecturing upon the Prussian system of Elementary Education, with especial reference to Normal Schools. From his friend, Victor Cousin, the first scholar of France, he obtained reports and documents, and encouraging words, which were to him the pabulum vitæ; for in this phase of the enterprise he stood almost if not quite alone; yet planting his feet literally on “Plymouth Rock,” he was conscious of strength. In behalf of a convention of teachers, called by him in Plymouth, he memorialized the Legislature in 1837, and was twice called before that body to speak upon his favorite subject:

HENRY BARNARD, as much as any man in this country, entitled to be called *the Educator*, whose fruitful labors are in their prime, and are destined to produce results greater and still greater as time progresses, and of whom this is not the place to speak at length.

Time and your patience fail me to speak of others who deserve the most honorable mention, and a large place in the affections of the hosts whom they have benefited. One more only shall be spoken of. I refer to Mr. GEO. B. EMERSON, whose whole life has been given to educational labors. The son of a distin-

guished physician, full of interest in popular education, and of labors to promote it, he has by inheritance the qualities which, under his own careful training and culture, have made him eminent in his profession, and distinguished him as the friend of common schools. In A. D. 1821, he was selected to fill the responsible office of Principal of the English High School in Boston, then just established. The work of organization, the plans and course of study, the nature of the discipline to be used, the means and motives to be employed, the moral and religious principles to be urged, all were left to his wisdom, skill and goodness. How well he did his work, let that noble institution, from that hour to the present the just pride of the city, tell. To him Warren Colburn, his friend, submitted the manuscript of that best of works on the science of numbers, "First Lessons in Arithmetic," that, lesson by lesson, he might practically test the work in his school; and the deserved popularity of this book was owing to Mr. Emerson's warm recommendations. In 1827, Mr. Emerson withdrew from the High School to open a Private School for Young Ladies, which he conducted with the most eminent success for more than a generation; retiring from it in 1855, at a moment when, if possible, its popularity was greater than it had ever been before.

Mr. Emerson, in 1827, was instrumental in forming the Boston Mechanics Institute, was its first Secretary, gave the opening address and delivered the first course of Lectures. In 1830 he was one of the foremost in forming the American Institute of Instruction, was its first Secretary, and for many years its President. In 1836, he was Chairman of a Committee to memorialize the Legislature on the subject of the Superintendence of Common Schools, and drew up the memorial. No particular action being taken by the Legislature, in 1837 a second memorial, also drawn up by Mr. Emerson, was presented, on the establishment of a Seminary for Teachers. In 1843 he wrote the second part of the School and School Master, one of the wisest and best works of the kind ever given to the public. In 1830 he was active in the formation of the Boston Society of Natural History, of which he was for many years President, and he was also for many years Corresponding Secretary of the American Academy of Arts and Sciences. In 1837, having been appointed by Gov. Everett Chairman of a Commission to conduct a Botanical and Zoölogical survey of the State, he gave to the public his admirable and exhaustive report on the "Trees and Shrubs of Massachusetts."

From the very first, almost of course, Mr. Emerson was deeply interested in the Normal Schools, and labored assiduously to promote their interests. In 1847-8, he was member of the Boston School Committee, and the latter year was chosen a member of the Board of Education, and during the eight years of his service was most active and influential. He has been for several years, since his return from Europe in 1856, the Treasurer of the Board.

The bill establishing the Board of Education was approved by Edward Everett, then Governor of the State, on the 20th of April, 1837. Horace Mann was then President of the Senate. At the first meeting of the Board, June 29th, 1837, Mr. Mann was chosen its Secretary.

The constitution of the new Board made the ultimate introduction of Normal Schools a certainty. Indeed, any scheme undertaken by such men as Edward Everett, Horace Mann, James G. Carter, Edmund Dwight, George Putnam, E. A. Newton, Robert Rantoul, Jr., and Jared Sparks, was a success the moment they grappled with it. The first two reports of the Board were written by Mr. Everett, and his addresses at Lexington and Barre, with his great personal influence, did much to prepare the public mind to welcome the new measures.

In 1838, on the 19th of April, that day so memorable and glorious, the Legislature by joint resolve accepted the munificence of Mr. DWIGHT, and appropriated an equal sum to the founding of Normal Schools.

The first examination of pupils for admission to the First Normal School established under this resolve, was at the school-house in Lexington, on Wednesday, July 3d, 1839, and the institution began with three pupils. It was a disappointment, cruel, indeed. To feeble minds, the mortification would have been intense, and the seeming failure crushing; but, small as it was, this was a *beginning*, and they knew it, and were content.

Nothing daunted, the Board, on the first Wednesday of September, 1839,

opened a second school at Barre, under the direction of the late Prof. Newman; and on the second Wednesday of September, 1840, a third in Bridgewater, under the direction of the late Col. Nicholas Tillinghast.

It should be here understood that these schools were not at first *State* schools, but the schools of private munificence, *aided* by the State—the State being responsible neither for success nor failure. Consequently, and indeed as a measure of policy also, private aid was solicited and private coöperation secured. To the school in Lexington, a building, used as an academy years before, was given, free of rent, for three years; and some contributions were made by well-wishing citizens for repairs, apparatus, &c. A similar arrangement was effected for each of the other schools.

The gentleman selected by the Board of Education to commence the experiment at Lexington, was Rev. Cyrus Peirce, a native of Waltham, Mass., born August 15, 1790, and graduated at Harvard College in 1810, where he left behind him a reputation for pure morals, upright demeanor, and thoroughness in scholarship. In his sophomore year he taught the village school in West Newton, where he was destined nearly fifty years after to close his long and successful educational career. Soon after leaving college, in 1810, he took the charge of a private school on the island of Nantucket; whence, after two years of acceptable labor, he returned to Cambridge, and completed a course of study preparatory to the Christian ministry. After spending three years in preparation for what he looked forward to as his great life-work, he was urgently solicited to return to Nantucket and resume the work of instruction. Here he labored with his accustomed zeal and success until 1818, when he relinquished his place and entered upon the work of the ministry. During his residence in Nantucket Mr. Peirce was united in marriage with Miss Harriet Coffin of that place, to whose wisdom in counsel, readiness and constancy of sympathy, promptness and energy in action, combined with cheerfulness and hopefulness of disposition, and rich and varied culture, he doubtless owed much of his success in the different positions he afterwards filled. No sketch of his school, at least, could be complete which did not recognize the modest and uncompensated labor of Mrs. Peirce. May she long live to enjoy the gratitude of her own as well as her husband's pupils, and the benign smiles of our Heavenly Father!

Mr. Peirce was settled as a minister in North Reading in A. D. 1819, and continued ably and successfully to perform the duties of his office for eight years, when he resigned and again resumed the work of instruction, subsequently returned again to Nantucket, where he became a recognized authority in all school matters, and was first and foremost in every good word and work. His influence on the common schools of the island was great, and served to make them among the very best in the country. While in charge there of the new public High School, Mr. Mann accidentally met him, visited his school, became charmed with the man and delighted with his work. Hence he was invited, in 1839, as has been stated before, to take charge of the new, difficult and doubtful experiment at Lexington. No one can comprehend the situation of affairs at the time,—the grandeur of the enterprise if successful,—the disastrous consequences, if it failed, without cheerfully considering that this appointment was the highest honor that could be conferred on any educator in the country; without understanding something of his feelings when he exclaimed to his wife, "Harriet, I would rather *die* than fail in this experiment." To his reputation as an instructor a failure would have been a death from which there would have been for *him* no resurrection. No wonder that, when he returned home from the disappointment of that first day, he said to Mrs. Peirce, "The Board have made a mistake in electing me; beyond Nantucket I am not known as a teacher, and the public have no confidence in me." The despondency was but a passing cloud,—cheerfulness and hopefulness returned.

The little school at Lexington of three pupils, with some additions in the next few days, was organized, and commenced its noble career, unfalteringly. Numbers slowly increased; a Model School was organized in October, its first teacher being Miss Swift, now Mrs. Lamson, who is with us to-day; and thus, on a small scale, the system was complete. Many persons will remember how apathetic were the people in general, at this time, in regard to these schools;

while some, ignorant of their true character, misapprehended and misunderstood their design, so that envy and jealousy were soon added to the obstacles to be encountered. In the winter of 1840, a storm of opposition arose, and but for the most skillful management and vigorous battle, the destruction of the Normal School and a dishonorable return of his money to Mr. Dwight, would have been the consequence. God be praised, the Old Bay State, which none love more tenderly than those who no longer dwell among her enlightened people, was saved this burning shame! The victory over political and theological opposition, over narrow-minded jealousy and rivalry, gave rise to a better understanding and an unexpected degree of popularity. So God every where "makes the wrath of man to praise Him." Opposition did not cease at once, but it never again gained strength enough to be very formidable. The school once started and safely through its first winter, continued slowly but steadily to increase until 1842, when the Principal, exhausted by the labors and anxieties attendant upon it, was compelled to resign and recruit his wasted powers. Thus far he had labored alone; and, that he might not give an argument to the most penurious, and in order to make the limited funds hold out as long as possible, had not only managed and taught the school, but had performed some of its most menial offices.

Both Mr. Peirce and Mr. Mann at once fixed upon Rev. SAMUEL J. MAY, as a most worthy successor, and, by their solicitations, Mr. May gave up his parish in South Scituate, and accepted the appointment, Sept. 1, 1842. Mr. May, a native of Boston, was graduated at Harvard University in 1817. During his college life he taught school in the winter, first in Concord and then in Beverly. Having completed his studies, preparatory to the ministry, at Cambridge, he commenced preaching in December, 1820, "the very Sunday after Daniel Webster's solemn charge to the occupants of the pulpit to be faithful to the cause of the enslaved." In 1822 he was settled as a pastor in Brooklyn, Conn., where he remained fourteen years; being, during the whole of that time, a member of the School Committee of the town, and devoting much time and thought to education. It was at his instance, that in 1826 the first popular convention on the subject of education and the improvement of schools was called.* In the years 1832-3-4 and 5, he devoted much time to the anti-slavery cause, in connection with Mr. Garrison, George Thompson, and the abolitionists. From 1836 to 1842 he was minister of the church of South Scituate, Mass., and in the spring of 1845, was settled as minister of the First Unitarian Church in Syracuse, N. Y., where he at present resides. During Mr. May's connection with this Institution its numbers greatly increased, and he was compelled to summon to his aid assistants.

The fortunate selection of Miss CAROLINE E. TILDEN, doubtless added still further to the popularity of the school. Miss Tilden, a former parishioner of his, was educated at the Bridgewater School, and by her peculiar genius and talents, high culture and zeal, was well-fitted for the post. Her heart was full of kindness, her manners attractive, and her eye was an almost irresistible charm. Her career was short; she "preferred to wear out rather than to rust out," and soon passed away. Her associate, Miss ELECTA N. LINCOLN, was a pupil of Mr. Peirce, a pupil and then an assistant of Mr. May, again an assistant and chief support of Mr. Peirce, and most ably conducted the affairs of the institution during the interval between the close of the administration of Mr. Peirce and the beginning of that of Mr. Stearns; and with the latter she labored with untiring zeal and faithfulness, assisting him to carry the school through a most difficult and critical period, as no other could have done, encouraging him by her example and cheerful spirit, until her marriage in 1850 to Mr. George N. Walton, of Lawrence.

It may be well to state here, once for all, that it is impossible even to allude to the many highly cultivated, noble-spirited, self-sacrificing ladies who have from time to time labored in this school. May God bless them all, as they have blessed others!

* An account of Mr. May's Educational Labors, with his Reminiscences of the Educational "Revivalists," will be found in the American Journal of Education, Vol. XVI, pp. 141-145.

EXTRACT

FROM THE

Fifth Annual Report of the Superintendent (Henry Barnard) of the Common Schools of Connecticut to the General Assembly, May session, 1850.

AFTER the lapse of a quarter of a century since the attention of the people of Connecticut was first called to the importance of providing for the special preparation of teachers of common schools for their arduous and responsible labors, the Legislature in 1849 appropriated the sum of ten thousand dollars, paid by the State Bank, and of one thousand dollars paid by the Deep River Bank, as a bonus for their respective charters, to meet the annual expenses of a State Normal School, or Teachers' Seminary, for a period of four years. Apart from my official connection with the institution, I felt it to be my duty as Superintendent of Common Schools, to do every thing in my power, not only to make its objects known, but to facilitate its early organization and opening, as the most important agency which could be employed by the state to increase the usefulness of the common schools, both as to the quality and amount of education given. So anxious were the trustees and officers of the institution to make a beginning of their enterprise, that without waiting for the complete outfit of buildings, apparatus and library, which the people of New Britain had pledged themselves to furnish on the location of the Normal School in that village, the school was opened on the 15th of the present month, (May,) under as favorable auspices, as to pupils and opportunities for imparting practical knowledge, as any of the seven Normal Schools which are now in successful operation on this continent. At the close of the first week, there were thirty-five Normal pupils in attendance, under the immediate instruction of Rev. T. D. P. Stone, the Associate Principal of the School, and upward of three hundred pupils from the village, in four Schools of Practice, under the charge of Mr. Stone, assisted by Prof. Guion, three female teachers and pupils of the Normal School. The four Schools of Practice are supported by the Central District of the New Britain School Society.

In the absence of any published rules of the Board of Trustees, regulating permanently the number of sessions in the year, and the length of each session, the subject and course of instruction, the period of attendance or degree of proficiency to entitle a pupil to the diploma of the institution, I will venture to set forth the general plans and aims of the officers who have been entrusted with the immediate care of the institution, for the purpose of making known its objects, and showing its probable influence on our common schools.

1. The officers of the Normal School believe that they could best promote the permanent improvement of the common schools of the state, by truly educating, and thoroughly training a few efficient teachers of the right stamp of character, physical, intellectual, esthetical and moral, and then securing their permanent employment at fair remunerating wages, at central points in different sections of the state, as Normal teachers in model school-houses; or, by being allowed to select every year out of such candidates as may be presented by the visitors for the several school societies, a small number of pupils who possess the health, gentleness of manners, fondness for children, purity of character, singleness of purpose and tact, that indicate a natural fitness for teaching, and then, retain them long enough to superadd such appropriate knowledge of the studies to be taught, and practical skill in arranging the classes and conducting the in-

struction and discipline of an elementary school, under the ordinary conditions of an agricultural district. But as either of these courses are impracticable under present circumstances, they will aim to benefit in such measure as they can, as many pupils as may apply for admission; to co-operate every year in such ways as shall be open to them, with as many teachers of the state as they can meet for professional improvement, whether the same shall be pupils of the school or not; to act by personal visits to the schools, and by public addresses, on as many societies and districts as their engagements at the Normal School will admit; and to prepare the public mind of the state generally, by precept and example, by voice and pen, as far and fast as they can, for more thorough and progressive steps of improvement in every department of the educational field.

2. The benefit of the Normal School to any pupil will be measured by the preparation each may bring in character, attainments and aptitude for the business, and the time and industry which may be devoted to the work. The officers of the school cannot encourage for a moment, the idea that a person who does not understand a subject thoroughly, can ever teach that subject well, or that a residence of a few weeks or months in the institution, however diligently and wisely employed, will be sufficient to gain a knowledge of the human mind, and of a child's mind in particular; of the studies which it is desirable to have well taught in our common schools, and of the best methods of teaching the same; of the motives which are to be appealed to to secure habits of study, order and obedience; and of all the technical and practical details of school keeping. They believe, however, that a person of quick observation, of some natural aptitude for the business, and a clear intellect of the average power and cultivation, can, with ordinary diligence and devotion, obtain much additional information, and some practical experience, correct many old errors and appropriate many valuable hints, and above all catch the true professional spirit, by even one term's residence at the school. A single visit to a good school; an hour's conversation with a good teacher; the reading of a single chapter in Emerson's "Schoolmaster," or Page's "Theory and Practice of Teaching," may be not only a help, but the starting point of a new life to the young teacher. The officers of the Normal School will, therefore, welcome any teacher or candidate for teaching, to the institution under their charge, for a visit of an hour or a residence of years.

3. By means of the regular classes in the Normal School and in the Schools of Practice, an opportunity will be offered to every member of the school to review thoroughly any one or all of the elementary studies required to be taught in the common schools of the state, and to extend his attainments in any of these studies, and such kindred branches as will facilitate his success as a teacher in any grade of common schools.

The reviews and recitations will be so conducted, as to methods and practical illustrations, as to make the studies far more interesting and profitable than they now are, whether regarded in the way of information, or as means of intellectual discipline, preparatory to those labors and duties of life which are most important and universal. A knowledge of the elements and structure of the English language, is justly deemed of paramount importance, and it is proposed so to teach it, as to give to every child who shall attend a common school with ordinary regularity and diligence, not only the ability to spell and read with accuracy and facility, but to converse and compose in it with a good degree of readiness and power, and at the same time acquire an earnest and discriminating taste for the choicest productions of American and English literature. Penmanship is now taught in every district school, and it is proposed to connect the exercises in this branch not only with constant practice in English composition, with book-keeping and other forms of business, but also

with the art of drawing, thus educating to a higher degree than mere writing can do, both the eye and the hand, rendering the one observant, and the other exact, and at the same time, training several important faculties of the mind, and imparting a power which can be turned to many useful purposes in every department of practical life.

In addition to the studies now generally taught in our schools, it is proposed to give some practical instruction in vocal music and physiology; and to those, whose previous training, or whose residence at the institution will be long enough to allow of this extension of the course without abridging the time and attention which are due to the elementary studies, a general view of the principles of agricultural chemistry and of domestic economy, will be presented.

4. Subjects will be taught in the Normal School rather than text books; and the manner in which the same subject is treated by several of the best authors, will be compared and discussed, in order that the graduates may be prepared to decide on the comparative merits of school books, whenever a change of text books is desirable in a school, and at the same time be able to teach the subjects properly, even if pupils of the same class should study the subject in different books.

5. The elementary studies will be thoroughly reviewed with constant practice on the blackboard, and by the aid of such maps, and cheap and simple apparatus as are now furnished in our best class of common schools, and are indispensable in all schools, not only that these studies may be more vividly apprehended, but that the teachers may be prepared to use means of practical and visible illustration whenever the same shall be furnished. For the want of knowledge of many useful applications of the blackboard in all of the elementary studies, even the blackboard is but little used at the present time by the teachers of our district schools.

6. In addition to familiar and practical suggestions on particular points in the organization, instruction and discipline of schools, as occasion may call for the same in the daily routine of the institution, lectures will be given on the history of education and schools; on the object and principles of public instruction in general, and of our own system in particular; on the art of teaching and its methods, and the application of these methods to each particular study; on the theory of discipline and its practice; on the peculiarities of a district school, as well as of other grades of schools; on the general principles of school architecture; on the legal position and relations of a teacher in our system of common schools; and a variety of other topics which need not be enumerated in this place. [See Topics for Discussion, and Questions respecting a School.]

These topics will be examined by the pupils in the light of their own previous experience and observation, will be tested by contrast and comparison with the matter and manner of instruction and discipline in the institution, and its associated schools of practice, will be further investigated in the books on the history of education and schools, and the theory and practice of teaching in the library, and will be made the themes of oral discussion and written essays which will constitute a part of the regular routine of the Normal School.

7. The various principles which come under the general department of the theory and practice of teaching, will not only be exemplified as far as practicable in the management, instruction and discipline of the Normal Schools and the Schools of Practice, but an opportunity will be afforded to the pupils of the first, to apply the same in practice to such extent and in such manner as the previous education of each shall render expedient and desirable. To give the most thorough familiarity with the theory and practice of organizing and conducting common schools, and at the same time to enable a few at least of each class to continue their connection with the school, a certain number will be employed as assistant teach-

ers in the schools of the village, and, as far as practicable, of the neighboring districts. Opportunity will be given to such pupils to spend a portion of the vacations in visiting the best schools in different parts of the state, and in attending educational meetings of various kinds which may be appointed by the Superintendent of Common Schools. The pupils thus employed will embody in written reports the results of their observation and experience, which will be subject to the examination and criticism of the officers of the institution.

8. To cultivate a truly religious feeling, to lay the foundation and implant the motives for a truly religious life, to enable the teachers by precept and example rightly to develop the moral faculties, and to define and enforce the performance of all the great primary moral duties, in the schools which may be placed under their charge, will be one of the cardinal objects of the Normal School. Every suitable effort, consistent with perfect religious toleration, will be made, to give a deep moral and religious tone to all the exercises, and to the whole character of the institution, from a deep conviction that a sense of responsibility to God, and of love to man, must form the main-spring of a teacher's activity, while it is the surest pledge of success.

9. Occasional lectures on important topics of education, or even courses of lectures on subjects of intrinsic value, and which reflect light on the studies, labors and duties of the teacher's calling, will be secured from time to time from persons who have given to these subjects special preparation. In this way it is anticipated that the pupils will have the benefit of the counsel, experience and study of many wise and distinguished teachers and educators from this and other states.

10. No efforts will be spared, by correspondence and personal application, to assist the Normal pupils in obtaining permanent situations as teachers, according to the qualifications of each, and to promote their advancement from a school of a lower grade and compensation, to one of a more desirable character in both respects. Any aid which can be given to the graduates of the school by advice and coöperation, in their several fields of labor, will be cheerfully extended. An opportunity will be afforded to such as may wish to return to the institution for a short period to perfect or practice themselves in particular departments of instruction, in which on trial they may find themselves deficient. An anniversary meeting, or reunion of all the members of the school, will be encouraged at least once in a year. The State Teachers' Association will be invited to hold at least one meeting every year within the walls of the institution, where every facility at the command of its officers will be extended to make the teachers of the state welcome, and their session profitable and interesting. Every thing will be done by the officers of the school, which a strong desire can suggest, and unwearied efforts accomplish, to make the school worthy of the kind feeling and prompt coöperation of all who are, and of all who propose to become teachers in any grade of public or private schools in the state, to grapple as with bands of steel, and yet only by the sympathy of a common pursuit and the sense of reciprocal benefit, the pupils to the school, and the teachers of the state to each other, and to unite all hearts and all hands in the great work of the more complete, practical and universal education of the children of Connecticut.

11. To make the objects of the Normal School generally known, to interest young persons of the right character and views in the business of teaching, and induce them to connect themselves with the institution for a sufficient length of time to obtain the full benefits of a methodical course of theoretical and practical instruction, to coöperate with such pupils as may go out from the Normal School to teach in different parts of the state, to visit schools of different grades in large and small, in village and country districts, for the purpose of ascertaining their condition, suggest-

ing improvements, and adapting the instruction of the Normal School to the real deficiencies of elementary education, to establish pleasant social and professional relations with teachers, school officers and parents, it is the intention of the officers of the institution to attend Institutes, Teachers' Associations, and common school meetings of every name, to which they may be invited, or where they have reason to suppose their presence and cooperation will prove acceptable. It is believed, that in the course of the four years for which the enterprise is now planned, every school society, and a large majority of the sixteen hundred and fifty districts, will be visited by one or more of the teachers of the Normal School.

This department of labor is as necessary to the success of the enterprise as the instructions which may be given within the walls of the Normal School.

Among the results which will follow from the successful management of the State Normal School for a period of four years, now provided for by law, may be specified the following.

1. It will make an institution or institutions of this character, in some form, an indispensable feature of our common school system. This has been the uniform result in every country and every state where the experiment has been tried under favorable auspices. There is not on record a single instance of the abandonment of this agency for providing good teachers for public schools, whenever it has been tried under liberal legislative or governmental patronage. There are more than two hundred such schools now in successful operation in this country and in Europe, and every year is adding to the number.

2. It will thus supply the want which has long been known to exist by those who have given most attention to the improvement of common schools, of a place where young men and young women of the requisite natural qualifications, can acquire the science and the art of teaching without a series of experiments which are annually made at the expense of the health, faculties, and affections of the children placed under their charge. It will do for the future teacher what the direction of the master workman and the usual term and duties of apprenticeship do for the future mechanic; what the law school, and clerkship in the office of an older practitioner at the bar, do for the young lawyer; what the medical school, the practice in the hospital, or dissecting room, or study in the office of the experienced physician, do for the medical student. It is applying to the business of teaching the same preparatory study and practice which the common judgment of the world demands of every other profession and art. In this case it is provided for by the state, because the state has found it to be a matter of interest and duty;—of right in its strongest and best sense;—to look after the education of children, and to contribute toward the wages of the teacher; and to protect her own appropriations she should see that the teachers are properly qualified.

3. It will help to make teaching a permanent employment. The more truly efficient a teacher becomes, the more thoroughly the habits of his mind and life are moulded to his occupation, the more deeply his soul is imbued with the spirit of his profession, the less likely he is, and the less capable he becomes of changing his career, and the more he is fortified against the temptations to forsake it; and the example and success of one such teacher will have a powerful influence in determining the choice of many others just starting in the profession.

4. It will help to verify the vocation of the pupils to the profession for which they are preparing. The Normal School will be a very uncomfortable place for any person whose heart is not in the work, and who looks upon teaching, not as a calling, a mission, but as a meaningless routine, a daily task, imposed by necessity, or taken up because nothing better offered, and to be thrown aside as soon as a more lucrative occupa-

tion shall turn up, or open. It will be soon ascertained who enters upon the prescribed round of observation and practice, of reading and discussion, of study and lectures, with the enthusiasm of persons in earnest and in love with their business; and only such will be encouraged to persevere, or will be recommended as teachers on leaving the school.

5. While it is probable that much the largest number of teachers who become connected with the school will not remain long enough to experience the full benefit of what is understood to be a course of Normal instruction and training, still it is believed a small number at least will, and the good which a few teachers properly trained will do, will not be confined to the districts in which they are employed. Their schools will become model schools for other districts, and the awakening influence of their example and labors will be felt all around them. Teachers who have not enjoyed the advantages of such training, will strive to excel those who have, and thus a wholesome spirit of emulation will spring up among the teachers of the same neighborhood.

6. Through the direct and necessary influence of even a few good schools scattered all over the state; of schools made good, and seen and felt and acknowledged to be made good, by teachers who have gone out from this institution with improved and improving views of the nature, objects and methods of teaching, and by the many other modes in which the officers and pupils of this school propose to act on the public mind, the standard of teachers' qualifications and wages will be gradually and permanently raised. Good teachers will be in demand, and their services will command good wages. The contrast between a good teacher, and a poor one, will be seen and felt; and then the great commercial law of demand and supply will begin to operate. The want of good teachers will be felt; and then will follow the corresponding demand. The demand will induce young men and young women so to qualify themselves as to meet this want. And with a demand for and supply of the better article, the poor one will remain a drug in the market. The other obstacles which now remain in the way of the employment of good teachers will gradually and forever disappear. Old, dilapidated, inconvenient, and unhealthy school-houses will give place to new, attractive and comfortable structures; for districts having the first will find it difficult to secure the services of a good teacher, who will understand well the relations which a good house bears to his own health and his success both in government and instruction. That relic of barbarism, the practice of "boarding round," of compelling the teacher to live homeless and without the ordinary facilities and seclusion for study, of being subjected to inconveniences to which the lawyer, or clergyman, or mechanic are not subjected by their employers, will no longer remain a hindrance to the formation of a permanent, well qualified body of professional teachers.

7. It will do much in connection with Teachers' Institutes, Conventions, and Associations, to inspire and strengthen a professional feeling among teachers. All the advantages felt by those who prepare in common for other professions, or act in concert,—friendships, mutual encouragement and assistance in studies, discussions and comparisons of view, and the social position and influence which follow the association of large numbers in the same pursuit,—will be experienced. There has been till within a few years but little of this professional spirit. Good teachers have grown up and remained isolated. Their experience has furnished them with excellent methods, a social position, and adequate pecuniary return. But their number has been small and their influence has been hardly felt beyond their own school-rooms, much less has it been made to give elevation, character and amelioration to the profession generally.

8. It will do something toward building up a professional literature which shall embody the experience, reflection, and discussions of our own

teachers on the science and art of education as applied and developed in our common schools. The practice of writing essays in the Normal School on educational topics; of discussing the same subjects in public meetings of teachers and parents; of making reports to the Principal on the state of the schools in which they may be engaged, or which they may visit, will lead to the establishment and support of an Educational Periodical for their own benefit. By means of such a periodical, an active spirit of inquiry will be awakened and kept alive; improvements in each district will be announced and made the common property of the profession; wrong ideas in education will be exposed and exploded; and the sound practice of good teachers will be embodied in words and reduced to the precision of scientific principles.

9. The officers of this institution expect to find in many of the members of the school a strong natural impulse to the study of education, and an enthusiastic attachment to their future profession, as the noblest, holiest department of human exertion. Upon that class, be the same large or small, as they appear, do they rely for giving an impulse of a most powerful kind to educational improvement, and especially in fields for which the laborers are at present few. Whoever else may doubt, or falter or fail, these will not. Though called upon to labor in obscurity, they will toil on and find their happiness in their work. New difficulties will only nerve their hearts for sterner encounters.

These anticipations of good to the teachers, the schools, and the state, may all be darkened, postponed and defeated. Public confidence, which must be the breath of life to this enterprise, may be withheld, or withdrawn through the influence of sectarian jealousy, sectional prejudice or party spirit. All that the officers of the Normal School can do, to avoid studiously all just occasions of offense, and to deserve the entire confidence of the people, the Legislature, and the teachers of the state, will be done. All they ask is a fair field, a reasonable amount of coöperation from school teachers and school officers, the charitable judgments of their fellow citizens, good health, and the blessing of God upon their labors.

The following extracts from the "*Report of the Superintendent of Common Schools*, (DAVID N. CAMP,) for 1860," will show the progress of the Institution down to the close of the year:—

When the Normal School was organized, it was considered by many, even of the friends of education, an experiment. Although the conviction was strong that some means must be provided for the better education of teachers of common schools, there was a difference in sentiment as to what measures were best, and the friends of the Normal School were by no means entirely harmonious in their views of the best plan of operation. Only two states, Massachusetts and New York, had established state Normal Schools. No well defined principles of organization or methods of instruction and training had been published, as adapted to the schools of this country. The plans adopted by the Board were necessarily to some extent experimental, but were such as seemed best in the circumstances and required by the demands of the common schools. At the time of the organization of the Normal School, or in 1850, there were few graded schools or permanent teachers in the state. With the exception of a few city schools, the districts almost exclusively employed male teachers in the winter and female teachers in the summer, and had two terms of school in a year. The demand for teachers was principally in the autumn, for male teachers for winter schools, commencing in October or November; and in the spring, for female teachers for summer schools, commencing in April or May. The

PROFESSIONAL TRAINING OF TEACHERS IN OHIO.

SPECIAL REPORT OF COMMISSIONER (HON. E. E. WHITE), FEB. 10TH, 1866.

The following joint resolution was passed March 13th, 1865:—

“Resolved by the General Assembly of the State of Ohio, That the Commissioner of Common Schools be and he hereby is authorized and requested to report to the Governor, to be by him laid before the next General Assembly, the organization and results of the best Normal Schools in this country, and so far as may be practicable, in other countries; and also the best plan of organizing one or more efficient Normal Schools in this State.”

In compliance with this request of the General Assembly, I respectfully submit the following Report:

During the past summer I spent several weeks in visiting Normal Schools in other States, with a view of making myself more familiar with their organization and the practical results of their training. The following are the schools visited: New Jersey State Normal School, Connecticut State Normal School, Massachusetts State Normal Schools at Westfield and Framingham, New York State Normal School at Albany, and the Training School at Oswego. I also visited the Normal School of the city of Boston and the one at Philadelphia. I also had interviews with Mr. Richards, Principal of the Illinois State Normal University, and Mr. Wickersham, Principal of the Pennsylvania Normal School at Millersville. I had previously visited the State Normal School of Michigan, located at Ypsilanti.

In pursuing my inquiries, I also took special pains to confer with educators of large experience and observation, who are not connected with Normal Schools, either as managers or teachers. I acknowledge myself specially indebted to Hon. Henry Barnard, of Connecticut, whose familiar acquaintance with the Normal Schools of this country and Europe enabled him to put me in possession of information of great value. Through his thoughtful courtesy I had the privilege of meeting, at Boston, Rev. James Frazer, of England, who had been sent to this country by the Royal Commission on Education, to investigate our common school system. Mr. Frazer kindly favored me with a full and minute account of the Training Schools of England, and the preparation for admission to them by a system of pupil-teacher apprenticeship.*

* The following is Mr. Frazer's account of the pupil-teacher system, as given in an address before the Ohio Teachers' Association at Cincinnati:—

“A promising pupil in an Elementary School—boy or girl, as the case may be—of not less than thirteen years of age, is taken and apprenticed to the principal-teacher for a period of five years. Such scholar is employed as a monitor under the principal-teacher, and is called a *pupil* in relation to the teacher, and a *teacher* in relation to the school, thus making up the hybrid appellation ‘a pupil-teacher.’ At one time the Government paid this pupil-teacher, but since the ‘Revised Code,’ his salary has been made to devolve upon the local managers. It would begin, perhaps, at \$50 a year, and would rise at the rate of about ten dollars a year, to the end of the term. Pupil-teachers *may be* employed in any school, and *must be* employed, under pain of forfeiture, in all schools where the average attendance exceeds eighty. The school hours are generally five hours a day for five days in the week, and the principal-teacher is bound to give the pupil-teachers one hour's instruction a day out of school hours. You will at once observe that this last feature, as well as the higher rate of salary paid, and the period during which the apprenticeship continues, constitutes the characteristic of the ‘pupil-teacher,’ as distinguished from the ‘monitor’ of Bell and Lancaster. I should have added that at the close of each year of his apprenticeship, at the annual visit of the Inspector, the pupil-teacher is subjected to a progressive examination, according to a previously defined schedule of subjects, and that his salary for the past year depends upon his passing this examination.

“Well, at the end of this five years' apprenticeship, the pupil-teacher is supposed to make a

Training Schools exist in most of the Dioceses of England, and like the Elementary Schools, are in connection with some religious denomination, most of them with the Church of England. Like the Elementary Schools, they are supported by local voluntary contributions, largely supplemented by aid from the Government. The course of training is two years, the object being partly to give the students accessions of actual knowledge, and partly to familiarize them with the best methods of teaching and organizing schools.

The examination for admission, which is before a Government Inspector, lasts four days, and embraces all the subjects ordinarily taught in the Elementary Schools. At the end of each year of the training course, students have to undergo a thorough examination. If they pass the examination at the end of the second year, they are free to go out and take charge of a school, with the title of a "probationary teacher." They continue in the same school, with this title, two years, during which time they are visited twice by the Inspector. If his reports respecting their aptitude and practical skill as teachers are favorable, they then receive a graded certificate, valid for five years, subject to revision as to grade at the end of the fifth year, according to the Inspector's opinion of their progress and success as teachers.

Normal or Training Schools similar to those of England are established throughout Europe, and are regarded as an essential part of every system of public instruction. Normal Schools are also established in Nova Scotia, New Brunswick, and each of the Canadas—the one at Toronto being probably the best equipped Normal School on the continent.

In this country, Normal Schools are now established under State direction and support in *sixteen* States, as follows: Massachusetts has *four*, two opened in 1839, one in 1840, and a fourth in 1854, beside the excellent Training School sustained by the city of Boston; New York has two, one at Albany, opened in 1845, and another at Oswego, which first received State aid in 1864;* Connecticut one, opened in 1848; Michigan one, opened in 1849; Rhode Island one, opened in 1854; New Jersey one, opened in 1855; Illinois one, opened in 1857; Pennsylvania three, one first receiving State aid in 1859, another in 1861, and a third in 1862, beside the Girls' Normal School of Philadelphia; Minnesota one, opened in 1860; Iowa one, opened in 1860, (department in State University;) California one, opened in 1863; Maine two, one opened in 1864, and a second about opening; Wisconsin one, opened in 1865; Kansas one, opened in 1865; Maryland one, established by law in 1865; and Indiana one, established by an act which passed the Legislature in December, 1865. South Carolina established a Normal School before the war, but having other business than the right education of her youth to attend to, abandoned the enterprise.

It will thus be seen that of the States that have maintained for any considerable length of time a free school system, all but *three* have one or more Normal Schools established under State authority. The three exceptions are *New Hampshire*, *Vermont*,* and *Ohio*.†

In most, if not all of the States, the Normal Schools are supplemented by

choice, whether he will follow the profession of a teacher, or abandon it for some other more inviting career. He is considered quite free to choose, as the salary he has received has been no more than adequate to the services he has rendered. If, however, he decides to adhere to the profession of which he has been serving the apprenticeship, his natural course is to enter what you call a 'Normal,' but what we generally denominate a 'Training' School."

* Vermont established a Normal School System, Nov. 17, 1866, and had two Schools in operation in 1867, with over 200 pupils in attendance. New York established in 1866-7, Normal Schools at Fredonia, Brockport, Cortland, Potsdam, Geneseo, and Buffalo—making eight in the State.

† In 1854, Cyrus McNeely, of Hopedale, Harrison county, Ohio, donated to the Ohio State Teachers' Association buildings, land and apparatus, valued at ten thousand dollars, on condition that the Association should raise an equal sum for the purpose of establishing a Normal School. The enterprise received the earnest support of the late Lorin Andrews, and several other prominent members of the Association, and was undertaken. The Normal School was opened in November, 1855, but proving too much of a financial burthen for the Association to carry, was permitted to pass into private hands. It is still in operation, and is doing a valuable service for the schools of the section of the State in which it is located.

The Southwestern Normal School at Lebanon, Ohio, was opened in 1855, under the direction of a board of trustees. Its scope is now largely widened, including a collegiate department and business institute, as well as a teachers' department. It has been attended by many hundreds of

Teachers' Institutes, supported to a greater or less extent by State aid. In New York the entire expenses of the Institutes are paid out of the State Treasury.

The plan on which most of the State Normal Schools are organized is simple. In States which have not a State Board of Education, they are established under the direction and control of a Board of Trustees, called, in some of the States, "Board of Normal Regents," who are empowered to determine the course of instruction and training, to employ teachers, etc. The current expenses, including teachers' salaries, fuel, repairs, etc., are met by State appropriations. Students pay their own board and other contingent expenses, the same as pupils do who attend any other public school. The law in Pennsylvania requires that each Normal School shall have boarding-houses capable of accommodating three hundred boarders—and board is thus furnished the pupils at a very reasonable price. In England the students at the Training Schools are expected to pay from one-fifth to one-fourth of the cost of their instruction and maintenance, the balance being defrayed from funds contributed by friends of the Training School, and by money appropriated by the Government.

The conditions of admission to the Normal Schools of this country vary in different States. In most a fair knowledge of the common branches is prescribed. In Connecticut, and I believe the same is true in New Jersey, the school authorities of the different towns select and examine candidates, and their certificate entitles the holder to a seat in the Normal School. The practical working of this plan is not satisfactory. Pupils are admitted who, from a want of scholastic attainments, are unfitted to enter upon the course of training. A want of sufficient scholarship on the part of those who seek admission to the Normal Schools is unquestionably one of the most serious defects in the American system of Normal training. In Michigan, pupils entering the Normal School have to make a pledge of intention to teach in the common schools of that State for a specified period. The same is true in some other States.

The course of instruction in most of the Normal Schools of this country is two years, with a one year's course in a few of them, for teachers of primary schools. While the one single object is to increase the teaching power of the student, the exercises have practically a four-fold aim:—

1. To impart to the student a thorough *teaching* knowledge of all the branches ordinarily taught in common schools. This includes not only a mastery of the subjects *as knowledge*, which is the first requisite for successful teaching, but also a mastery of them *as subjects to be taught to others*. This is the one distinctive idea which runs through every lesson and exercise.

2. To impart to the prospective teacher a practical knowledge of the *guiding principles* of his art, and to enable him to reduce such principles to something like a philosophical system. In other words, the second aim is to teach the *science* of education. This is usually sought to be accomplished by lectures.

3. To impart to the teacher a knowledge of the best methods of instruction and government, including the methods specially applicable to each stage of the child's progress and to each branch of knowledge. This part of the course is sometimes united with the first, each recitation being conducted with a view of unfolding the true method of teaching the topic. But in all Normal Schools where instruction in methods of teaching is made duly prominent, separate exercises are also devoted to the subject.

4. To impart to the student *skill* in the art of teaching by an application of his knowledge of principles and methods in *actual practice*. For this purpose most Normal Schools have a Model or Experimental Department, in which the students practice under the supervision and criticism of a skillful teacher. In the best Training Schools these model-lessons, as they are called, are made the basis of instruction in methods. In some Normal Schools the practice of the students is obtained by giving model-lessons to their own classes.

teachers, and has unquestionably exerted a potent influence upon the character of the schools in that section of the State. It is now in successful operation.

The Western Reserve Normal School at Milan, Ohio, was opened in 1858, but my acquaintance with the institution is too limited to permit me to speak of its professional character or influence. It is believed to be doing a good service for the schools of its locality.

The number of teachers that have attended these different institutions, which are, of necessity, largely academic in their character, is evidence of an encouraging demand for professional training, and the good accomplished by them in their respective localities, is an assurance that the influence of a State Normal School of a high professional character would be wide and potent.

In the different Normal Schools visited, I observed a very great difference in the relative attention given to these four parts or aims of the course of training; in the majority of them, however, the first received the chief attention. In the Training Schools at Oswego and Boston, the last three made up the course—an adequate knowledge of the branches to be taught being required as a condition of admission. In the reorganization of the Oswego Training School on a wider basis, it is proposed to provide for a thorough review of the different branches as a *preparation* for the regular course of professional training.

I am strongly tempted to enter more fully into details, but as a general outline of the plan of organization and course of instruction of Normal Schools will best serve the purposes of this report, I pass to the second inquiry of the General Assembly.

RESULTS OF NORMAL SCHOOL TRAINING.

What are the practical results of Normal School training in Europe and in this country? Does the success of the Normal Schools that have been established afford substantial and conclusive proof of their value as practical agencies for the preparation of teachers? The only difficulty in answering these inquiries arises from the abundance and high character of the testimony at hand. The experiment of specially training persons for the teacher's office has been tried on a scale so wide, under such a diversity of condition, and with such a uniformity of results, that the evidence of its success is not only manifold but superabundant for citation as testimony.

The first school in Europe for the preparation of teachers was founded by the good Franké, at Halle, in Prussia, about the year 1704. The success of the experiment may be inferred from the well authenticated fact that the teachers from this school, spreading over Northern Germany, prepared the way for the great revolution in public instruction which was accomplished during the reign of Frederick William III. Since Franké's successful experiment, Normal or Training Schools for teachers have multiplied in Europe until they have become an essential part of every system of public instruction. The Training Schools connected with the Elementary Schools of Great Britain are regarded as one of the two "corner-stones" upon which the system rests. The larger the experience and the wider the observation of English educators, the more emphatic is their testimony upon this subject.

Hon. Edgerton Ryerson, Chief Superintendent of Public Instruction of Upper Canada, says:

"Wherever Normal Schools have been established, it has been found that the demand for regularly trained teachers has exceeded the supply which the Normal Schools have been able to provide. This is so in the United States and France; it is most painfully and pressingly so in England, Ireland and Scotland. I was told by the Head Masters of the Great Normal Schools in London, in Dublin, in Glasgow and Edinburgh, that such was the demand for pupils of the Normal Schools as teachers, that in many instances they found it impossible to retain them in the Normal Schools during the prescribed course, even when it was limited to a year."

The first Normal School in this country was opened in July, 1839, at Lexington, Massachusetts,—now removed to Framingham. During the same year a second Normal School was opened at Barre, now at Westfield, and during the next year a third at Bridgewater. The success of these pioneer American Normal Schools is sufficiently attested by the fact that they are still cherished by the State as the only unfailing reliance for supplying the schools with well-qualified teachers.

Horace Mann, than whom no man was a more competent witness, pronounced even the earlier success of the Normal Schools of Massachusetts a "practical demonstration" of their high value as agencies for supplying the common schools with competent teachers, and emphatically declared them "the one indispensable thing for carrying forward a system of common schools." In his eleventh annual report as Secretary of the State Board of Education, he says:

"These institutions [Normal Schools] are steadily fulfilling their great mission. They are gradually revolutionizing the methods and processes of instruction, improving its quality and enlarging its quantity throughout the State."

The highest authorities in the State, among whom are Josiah Quincy, Edward Everett, George S. Boutwell, Mark Hopkins, Barnard Sears, George B. Emerson, Joseph White, Birdsey G. Northrup, John D. Philbrick, and Governor Andrew, all concur in the opinion that they have been eminently successful and useful in preparing for the schools a superior class of teachers.

Mr. Northrup, who for nine years has been the Traveling Agent of the State Board, and who has probably seen more Normal teachers *at work in the school-room* than any other man in America, says:

"The more I visit schools and observe their methods and results, the stronger is my conviction of the necessity and usefulness of Normal Schools. My observations in schools and among the people assure me that our Normal Schools have widely diffused better ideas of education and awakened increased popular interest in the cause of public instruction.

"They have greatly elevated the standard of qualification for teaching, both among teachers and in the popular estimate. The Normal graduates, as a general fact, have shown greater thoroughness and skill in teaching, more system in arrangement of studies and in the programme of daily duties, more enthusiasm in their work and devotion to the profession."

But the most satisfactory evidence of the superior qualifications and success of the Normal teachers of Massachusetts as a class was called out in 1859 by an ignorant and ridiculously abortive attack upon the Normal Schools. Ex-Governor Boutwell, who was then Secretary of the Board of Education, sent circulars to all the towns [townships] in the State, soliciting from the school committees [boards of education] a full and free expression of their views as to the success or failure of Normal graduates as teachers. All but eleven of the replies received were favorable to Normal Schools. The testimony is found in the twenty-second annual report of the Board of Education. Such an indorsement of the superior success of professionally trained teachers, after twenty years' trial, by the school authorities of an *entire* State, is certainly evidence not to be gainsayed or resisted.

Equally conclusive is the testimony respecting the skill and success of the graduates of the State Normal School of Connecticut. In 1862, inconsiderate and wild charges were made against the Normal School in the General Assembly (not wilder, however, than Assemblymen had sometimes made against the entire common school system,) and the Joint Standing Committee on Education was instructed to inquire into its affairs and management. At the May session, in 1863, this committee submitted a carefully prepared report, in which they give the following emphatic testimony:—

"Testimony has been received from members of Boards of Education, District Committees, Principals of large Public Schools, and others interested in educational pursuits, from every county in the State—testimony which is confirmed by a careful investigation of all seeming opposition—that, as a class, the graduates and under-graduates of our State Normal School are more sought for as teachers, pass better examinations, are stricter disciplinarians, are more thorough and systematic in teaching, waste less time in educational experiments, are more ready to improve by suggestions, have more laudable pride in their profession, show larger results, and give to school committees, parents and guardians better satisfaction than teachers from other sources."

Of the large number of statements received from the school visitors in the towns [townships] of the State, only *one* was unfavorable to the Normal teachers.

The Board of Trustees of the State Normal School of Rhode Island, in a late report to the General Assembly, say:—

"The almost uniform testimony is in favor of the marked superiority of teachers from Normal Schools. The sentiments of the people in the localities where they have taught, ranges from the simple expression of 'favorable,' to the strongest and most enthusiastic terms of satisfaction. It is not pretended that Normal graduates never make failures. Some of those who have left Cambridge, Andover, West Point and Annapolis, have failed. Yet nobody doubts but the majority of those who have attended these institutions have become better lawyers, divines, soldiers and sailors than they would have been without the advantages offered there."

The above testimony is fully corroborated by all the information I have been able to collect upon the subject. No one who candidly considers testimony like this—and it might be increased to almost any extent, and made to include every State and country that has made the experiment—can resist the conclusion that the special professional training of teachers in Normal Schools is eminently advantageous and fruitful, largely increasing their success and usefulness. And this overwhelming evidence, be it remembered, is the result of very imperfect methods of professional training and instruction, since our Normal Schools are, as yet, by no means a full realization of what is desirable and practicable in this direction.

NECESSITY OF SPECIAL AGENCIES FOR THE TRAINING OF TEACHERS.

This leads me to a fundamental fact in the successful administration of a system of public instruction—one that lies back of and beneath all the inquiries that have been considered. The one *vital* condition of a good school is a *good teacher*. Other conditions are important; this is essential. School houses and apparatus, text-books and courses of study, classification and supervision, are indeed valuable agencies and conditions, but they are all inadequate until vitalized by the informing spirit of the teacher. Hence in a system of education the advancement of the teacher is increasing success; his want of progress, failure.

The distinguished M. Guizot, then Minister of Public Instruction in France, once said: "All the provisions hitherto described would *be of no effect* if we took no pains to secure for the public school *an able master*." Victor Cousin, another able Minister of Public Instruction in France, is still more emphatic: "The best plans of instruction can not be executed except by the instrumentality of *good teachers*, and the State has done *nothing* for popular education, if it does not watch that those who devote themselves to teaching be well prepared. I attach the greatest importance to Normal Schools, and I consider that all future success in the education of the people depends upon them." Dr. Channing, in 1837, said: "The most crying want of this Commonwealth [Massachusetts] is that of accomplished teachers. We boast of our schools, but our schools do comparatively little, for want of educated instructors. *Without good teachers, a school is but a name*." Said Horace Mann, in alluding to the means for improving common schools: "But the great object for carrying the benign work of reform to our schools *must be the teacher himself*. No fullness in the qualifications of others can be the supplement of any material deficiency in him."

Testimony like this might be multiplied until the name of every educator who has written upon the subject is cited. Indeed, the propositions we have stated, if not self-evident, are the plain deductions of universal experience, and, as such, need no other proof. They are accepted educational axioms.

But in order that a system of common schools may be supplied with competent, efficient teachers, such teachers must be raised up and fitted for their office by special preparatory training. The emphatic testimony of educators on this point has become "like the voice of many waters." Everywhere, those whose experience and observation make them competent to decide such a question, agree that the high vocation of the teacher demands special and thorough preparation.

But, independent of all testimony of this kind, it stands to reason that he who would undertake the awakening, guiding and enlightening of the human soul, should bring to so great a task special preparatory training. In every pursuit of life, demanding any considerable degree of skill and knowledge, the universal sense of mankind demands special preliminary preparation. The artizan has his years of apprenticeship, and the legal, medical, and other professions, their schools of special training and practice. The young attorney whose only credentials are natural aptitude and a college diploma, finds himself briefless; and the quack who, without special training, has the audacity to enter the sick chamber and lay his unpracticed hands upon the human vitals, is (or ought to be) denounced as a criminal. The building of forts and monitors is not intrusted to house carpenters, and a mastery of the architectural art is the

talismán that transmutes ledges of rocks into temples of strength and beauty. Who then shall attempt to build up this immortal temple of the soul without special preparation for so great and difficult a work?

A second argument in favor of professional training for the teacher, is based upon the complex nature of the work he has to perform. If our whole theory of education is not a delusion, it is the science of sciences. As an art it has no equal, either in susceptibility of improvement or the knowledge and skill required for its successful prosecution. Every step of the teacher's work demands a knowledge of the faculties of the human mind, the order of their development, and the kind of knowledge and training required at each successive stage of such unfolding. True education is, in a word, based upon principles that go to the very core of mental and moral science, and sweep over all human knowledge and progress. Who, in view of such facts as these, will pretend that a clear and definite knowledge of the principles that underlie the work of education is not an important preparation for the teacher's high vocation? Who will claim that an examination of tuitional methods, in the light of these principles, would not greatly assist the young teacher in determining and regulating his own methods?

A third argument is the nature of the material upon which the teacher has to work. "A workman," says Mann, "should understand two things in regard to the subject matter of his work; first, its natural properties, qualities and powers; and secondly, the means of modifying and regulating them with a view to improvement." But what material workman ever yet touched, with hammer or chisel, such materials as those the teacher has to fashion into forms of power and beauty? What laws so hidden, and at the same time so essential for guidance, as those which must direct his every stroke? How often, through ignorance of the nature of the human mind, its susceptibilities and laws of growth, are a teacher's most zealous efforts wasted—that which promised to be the rich fruit of knowledge and virtue turning to ashes in his unskillful and misdirected hands!

Finally, the infinite value of the material placed in the teacher's hands renders a practical knowledge of its nature and qualities of the highest importance. The block of marble, spoiled by an unskillful blow, may be replaced; but the soul, marred and destroyed by ignorant handling, has no substitute. The gold and diamonds of earth can not replace it. Every line of deformity, every trace of the misguided chisel, is made upon it for eternity. Like the broken flower or the consumed diamond, the soul's purity and glory, when once lost, can never, save by Divine grace, be restored. Surely those who may be called to the teacher's office should bring to such a high responsibility special and thorough preparation.

It is not, of course, claimed that we can have no successful teachers without the agency of professional training. Here and there we find teachers of great natural aptitude for their work, achieving the highest success without such training. Nor is it claimed that any course of preparation can make an eminently successful teacher out of one who is seriously wanting in native teaching ability. A degree of natural aptitude is essential to the highest success of the teacher, whatever may be the advantages of training and experience; but this is equally true, as Edward Everett has remarked, in every pursuit or calling—in law, physic and divinity, in trade, manufactures and farming, and in the military art—and is never thought to militate against either the necessity or value of special preparation; since it is the function of all training, general or special, to develop and equip native powers—not to create them.

NECESSITY OF SPECIAL AGENCIES FOR THE PROFESSIONAL TRAINING OF TEACHERS IN OHIO.

In the light of the foregoing truths and experiences, it is evident that the most vital question involved in the improvement of the schools in Ohio is this: How can these schools be supplied with competent, efficient teachers? That they are not thus supplied is painfully evident. No one can question the assertion that there exists in them a wide-spread and lamentable lack of well-qualified teachers. The annual returns of the different boards of examiners

show that only about one half of the teachers certificated by them possess sufficient scholarship to secure a creditable grade of certificate—to say nothing of their lack of professional knowledge, skill and experience. It is scarcely necessary to add that this is the result of a sufficiently low standard of measurement. It is true, there are found in our schools many excellent teachers—not a few who are an honor to their calling and a blessing to the cause of education; but the general fact is lamentably true, that the great body of the teachers of the State possess exceedingly limited qualifications.

Now it is manifest that whatever else we may do, so long as this state of things exists, we shall fail to “secure a thorough and efficient system of common schools throughout the State,” as is enjoined by our State Constitution. It is true that the task of supplying our schools with competent teachers is a difficult one, but we must succeed in it, or we shall surely fail to accomplish what we have undertaken in the direction of universal education. And let it be remembered, for our encouragement, that just to the extent we do succeed in this task, to that extent shall we also be successful in increasing the efficiency of our school system.

Our experience, thus far, is conclusive that we can not depend upon ordinary school agencies to raise up a supply of qualified teachers for our schools. The general improvement of the schools of the State through the introduction of the principles of classification and gradation, the establishment of high schools, etc., has unquestionably reacted upon teachers, greatly increasing their qualifications and efficiency; but all experience shows that these agencies are entirely inadequate, even in those localities in which they have been carried to their highest perfection.

Nor can we longer fold our arms and depend upon the philosophy of Dogberry to vitalize and improve our school system. Nature has an exceedingly limited supply of self-furnishing and self-guiding teaching ability; or she is very chary of it. It is sadly evident that the great majority of teachers do not come from her hands fully endowed and panoplied for their work, as Minerva is fabled to have sprung from the brain of Jupiter. The truth is, neither natural aptitude, nor experience in teaching, nor good school instruction, nor good examples of teaching, can be depended upon to provide a sufficiency of competent teachers for our schools. The first two of these agencies are fixed quantities, so far as our efforts can effect them, and the last two must be increased and widened mainly by a corresponding increase of well qualified teachers, which is not unlike the fruitless endeavor to intensify a cause by first increasing its effects!

I have thus shown the absolute necessity of well-qualified teachers in an efficient system of education; the wide spread and lamentable lack of such teachers in the schools of this State; the inability of ordinary school agencies to supply these schools with competent teachers; and the necessity and practicability of special professional training as a preparation for the teacher's office. I am carried by the force of an irresistible logic, and by the plain teachings of experience, one step farther. The State of Ohio must provide special agencies for the training of competent teachers for the schools under its control. This is the practical conclusion of the whole matter. The State, in assuming the responsibility of maintaining a system of common schools for the right education of its citizens, has also taken upon itself the consequent duty of providing these schools with capable, efficient teachers—a duty which can not be ignored, and which ought not to be longer neglected. “An adequate knowledge of the theory and practice of teaching” is now made by law an essential qualification of every common school teacher, and it is the imperative duty of the State to provide facilities for acquiring such important knowledge.

In the firm belief that the establishment of an efficient system of professional instruction and training for the teachers of the State is an essential measure for the adequate improvement and elevation of our school system, I take pleasure in commending the following plan of organizing such a system to the favorable consideration of the General Assembly:

PLAN FOR PROVIDING NORMAL INSTRUCTION IN OHIO.

A system of professional training for the teachers of this State, to be in the highest degree efficient and successful, must place such training within reach of every teacher. It must also provide facilities of a high character for the training of a superior class of teachers, whose example and influence shall vitalize the profession and lift it up to a higher standard. Without entering upon a discussion of these propositions, I will proceed to describe three agencies which, taken together, present such a system. They are: 1. County Teachers' Institutes. 2. District (Judicial) Normal Institutes. 3. State Normal School.

1. *County Teachers' Institutes.*—A well conducted Teachers' Institute, bearing directly and practically upon the duties of the school-room, is an important instrumentality for the professional instruction of teachers. Its value has been tested by more than twenty years' trial in every State blessed with a free school system.

I think I am safe in saying that no other agency has done more toward increasing the professional attainments of the great body of American teachers than this. In the State of New York, where it first originated, an Institute continuing in session two weeks, is held annually in every county. The example of other States might also be cited.

The amendatory school law of 1864 requires each applicant for a teacher's certificate to pay a fee of fifty cents as a condition of examination, and sets apart most (at least two-thirds) of the funds arising from such fees for the support of Teachers' Institutes in the several counties. In the larger counties this fund is sufficient to hold a good Institute each year, but in the smaller counties it is not adequate to meet all expenses. The new system is not yet in full operation, but it promises much for the future.

The great difficulty now to be overcome is the lack of experienced and competent institute superintendents and instructors. Very few teachers are capable of performing this important service, and those who are capable have, as a general rule, other duties which require their entire time. In several counties, arrangements for holding Institutes have had to be abandoned because the committee could secure no competent person to take charge of them. Nine pressing invitations for assistance were on my table at the same time, only three of which could possibly be responded to favorably.

What is needed is a corps of experienced Institute instructors, capable of unfolding and illustrating by practical drills and lessons, the best methods of teaching the several branches of study to classes of different and varying capacities, and able to present clearly and systematically the principles which underlie such methods, as well as those which must guide the teacher in the higher duties of moral training and government. Such a corps of instructors going through the State, organizing and conducting Institutes in the more backward counties, and lending a helping hand wherever their assistance may be needed, would make the new Institute system a powerful agency for the better preparation of teachers, and, as a consequence, for the advancement of the school system.

But in order that such a corps of instructors may be put into the field, an appropriation by the State to assist in their support, is absolutely necessary. I would most earnestly repeat the recommendation made last year, that an appropriation sufficiently large to keep at least three competent instructors in the field be made by the General Assembly. The teachers of the State are paying annually over \$8,000 for the support of Institutes. Could the State pay at least half this sum, the present Teachers' Institute fund would be made fruitful as a practical means for the better qualification of teachers.

2. *District Normal Institutes.*—County Teachers' Institutes have, of necessity, too brief sessions to afford such a systematic course of professional training as all our teachers need, and as many of them are willing to receive. Even when they are continued two weeks, there is little time for model-lessons and practical drills to illustrate methods of teaching. In other words, there is little time for professional TRAINING, the brief session of the Institute being required for INSTRUCTION in the methods and principles of the art of teaching.

To meet this growing demand for a more thorough course of instruction and training than the County Institute can furnish, temporary Normal Institutes, continuing in session from four to six weeks, have been organized. So successful have been these Normal Institutes, that they have been organized in connection with several of the Normal Schools of the country.* Eight such Institutes were held in the State during the past summer; most of them, however, partook more of the character of brief schools for the review of the common branches, than of Institutes for the professional training of teachers. What is needed is a thorough and efficient system of Normal Institutes, largely professional in their character.

The plan I would respectfully recommend is the organization of one such Normal Institute in each of the ten judicial districts of the State, a session to be held annually, at some convenient point. There will be little or no difficulty experienced in securing the use of suitable buildings and other accommodations without expense to the State. These will be gratuitously furnished by Boards of Education and the proprietors of private institutions of learning, for the purpose of securing the advantages of the Institute to their respective localities. The expense of instruction should be borne by the State, and this will require an appropriation of about \$400 to each Normal Institute held, making an annual aggregate of about \$4000. I know of no way in which so small an expenditure for the elevation and increased efficiency of the school system can be made with certain promise of so large a return. These Normal Institutes, held in different localities, would exert an influence which would soon permeate the entire school system.

3. *State Normal School.*—To complete the system of professional training recommended, there should be established at least one State Normal School of a high character. No system of Institutes, however complete and thorough, can alone accomplish what is needed. The length of their sessions is, at best, too limited, and the course of training too partial to raise up such a class of model teachers as are needed to lift common school instruction out of the deep ruts of routine, and to impart to it vitality and power. We need teachers trained by superior methods, that they in turn may become the teachers of teachers, and both by example and precept lift up the profession to a higher and truer standard. In short, we need a Normal School that shall be able to go beyond mere scholastic training and model examples of skillful teaching; that shall unfold thoroughly and systematically the *why* as well as the *how* of education—that shall teach its history, its philosophy, its methods.

It is true that one Normal School, however complete and thorough, will not be adequate for the accomplishment of a tithe of what is needed. But we must make a beginning, and, as all experience teaches, one thoroughly equipped Normal School will prove more efficient and valuable, even for the State at large, than two inadequately furnished for their mission, and consequently feeble and superficial in their influence and training. Besides, the complete success of one Normal School will soon prepare the way for the organization of another.

The cost of establishing a first-class Normal School in this State will depend,

* The first Normal Institute of this character ever held in this country was convened at Hartford, Connecticut, in 1839, by Henry Barnard, then Secretary of the Board of Commissioners of Common Schools for that State, at his own expense, "to show the practicability of making some provision for the better qualification of Common School teachers." It was called a "Teachers' or Normal Class," and was so successful that Mr. Barnard, in giving an account of it in the Connecticut Common School Journal for November, 1839, used the following language:—

"We have no hesitation in saying that a judicious application of one-fifth of the sum appropriated unanimously by the House of Representatives to promote the education of teachers of Common Schools in different sections of the State, would have accomplished more for the usefulness of the coming winter schools, and the ultimate prosperity of the school system, *than the expenditure of half the avails of the School Fund in the present way.* One thousand, at least, of the eighteen hundred teachers would have enjoyed an opportunity of critically revising the studies which they will be called upon to teach, with a full explanation of all the principles involved, and with reference to the connection which one branch of knowledge bears to another, and also to the best methods of communicating each, and the adaptation of different methods to different minds. They would have become familiar with the views and methods of experienced teachers, as they are carried out in the better conducted schools than those with which they had been familiar. They would have entered upon their schools with a rich fund of practical knowledge gathered from observation, conversation and lectures, and with many of their own defective, erroneous, and perhaps mischievous, views corrected and improved."

In the fall of 1839, and the spring of 1840, Mr. Barnard held County Institutes identically the same as those held in New York in 1842.—*Ed.*

of course, upon the cost of the grounds and buildings. The experience of several other States leads me to hope that these will be given by some community as a *bonus* to secure the location of the institution. The citizens of McLean county, Illinois, subscribed one hundred and forty-three thousand dollars for the sake of getting the Normal University of that State located in the county. Hon. Josiah Quincy, Boston, purchased a building and presented it to the Normal School at West Newton, Mass., now removed to Framingham. The city of Oswego has purchased and fitted up a fine building for the State Training School of New York. Other similar instances might be named.

The annual expense of maintaining a Normal School of a high character, when once established, will be about \$12,000. The current expenses of the Illinois Normal University, Michigan State Normal School, New Jersey State Normal School, and the New York State Normal School at Albany, are respectively about \$12,000 a year. This sum will be needed in this State.

It will thus be seen that the actual cost to the State of maintaining the entire system of Normal and Institute instruction which I have recommended, is only about \$20,000—a sum altogether insignificant when compared with the grand object it is to promote. The law making the appropriation may with propriety be entitled “An act appropriating \$20,000 to keep the half of \$3,000,000 from being squandered on incompetent teachers!”

Any attempt to present a complete course of study and training for the proposed Normal School, or to give the details of its organization, would carry me beyond the proper limits of this report. I would recommend that the organization and management of the entire Normal System, including the Normal School, the Normal Institutes, and the County Institutes, be intrusted to a Board of Trustees, or Regents, to consist of the Governor and Commissioner of Common Schools, as *ex officio* members, and three other persons to be appointed by the Governor, and confirmed by the Senate, the same to be known as the “State Board of Normal Regents,” with full authority to appoint a general Institute superintendent, to act in conjunction with the Commissioner of Common Schools, and to employ Institute instructors—the amount expended each year being limited to the State appropriation for the purpose. In those counties which may have efficient local Institute associations, the management of the County Institutes should be left, as now, to such associations, the State instructors rendering needed assistance. But I forbear entering further into details. Should the plan recommended receive the approbation of the General Assembly, I shall be happy to render any assistance in my power in determining the practical details of the system.

It is now nearly thirty years since Hon. Samuel Lewis, then State Superintendent of Common Schools, submitted to the General Assembly of Ohio, in answer to a resolution, a “Report on State Institutions for the Training of Teachers and Others,” in which he recommended the establishment of a State institution for the professional training of teachers, sustaining his recommendation by a cogency of argument worthy of the great cause he sought to promote.

Since the date of Mr. Lewis' report, which presented to Ohio the enviable opportunity of becoming the American pioneer in the professional training of teachers, Normal Schools have been established by *sixteen* States—Ohio being outstripped by States that have not a tithe of her wealth or population. Even new-born Maryland has made the Normal School an essential element of her new free-school system. Indeed, States that have been peopled since the General Assembly of Ohio passed the resolution referred to, have now their Normal Schools. Massachusetts is paying more than \$22,000 annually for the support of her Normal Schools and Institutes. New York pays annually from \$20,000 to \$25,000* for her Normal Schools, about \$17,000 for Teachers' classes in Academies, and from \$10,000 to \$15,000 for Institutes. Illinois, even while the late civil war was raging, appropriated, in two installments, \$97,000 to pay, in part, for the magnificent building now occupied by her Normal University.

Why, in a matter so fundamental and vital as the supplying of her schools with qualified teachers, should Ohio longer fail to be the peer of her sister States? An efficient system of professional training for the teachers of the State is imperatively needed to infuse new life and vigor into the schools and elevate the standard of public instruction. I would most earnestly commend this subject to the favorable consideration of the General Assembly.

* Increased to \$60,000 in 1867.

STATE NORMAL SCHOOLS,

AND OTHER INSTITUTIONS FOR THE

PROFESSIONAL TRAINING OF TEACHERS.

PRELIMINARY REPORT.

THE following pages exhibit the condition of State Normal Schools and City Training Schools in operation in 1867-8, so far as returns have been received, in response to the Special Circular (No. 10,) of the Commissioner of Education, soliciting information on the whole subject of the Professional Training of Teachers in the several States. A more complete documentary history of the system in each State will be hereafter presented.

NORMAL SCHOOLS.

PRELIMINARY REPORT.

	PAGE.
Circular of Commissioner of Education,	641
MASSACHUSETTS STATE NORMAL SCHOOLS,.....	657
FRAMINGHAM STATE NORMAL SCHOOL,.....	659
Historical Discourse, Quarter Centennial Celebration,.....	663
Inauguration of the first Female Principal of a Normal School,.....	671
WESTFIELD STATE NORMAL SCHOOL,.....	681
BRIDGEWATER STATE NORMAL SCHOOL,.....	689
SALEM STATE NORMAL SCHOOL,.....	697
NEW YORK STATE NORMAL SCHOOLS,.....	703
ALBANY STATE NORMAL SCHOOL,	703
OSWEGO STATE TRAINING SCHOOL,.....	713
MICHIGAN STATE NORMAL SCHOOL,.....	719
YPSILANTI STATE NORMAL SCHOOL,.....	720
IOWA NORMAL SYSTEM,.....	725
State University,.....	725
NEW JERSEY,.....	729
Trenton State Normal School ; Farnum Preparatory School,.....	731
ILLINOIS,.....	745
Normal University,.....	743
PENNSYLVANIA,	752
Millersville Normal School,.....	752
Edinboro Normal School,.....	753
Mansfield Normal School,.....	753
Kutztown Normal School,	754
WISCONSIN,.....	755
Platteville Normal School,	758
MINNESOTA,.....	761
Winona State Normal School,.....	761
CALIFORNIA,	769
San Francisco State Normal School,	769
KANSAS,	771
Emporia State Normal School,.....	771
MAINE,	773
Farmington State Normal School ; Castine State Normal School,	776
MARYLAND,	777
Baltimore State Normal School,	778
INDIANA,.....	781
Terre Haute State Normal School,.....	781
SOUTH CAROLINA,.....	785
Charleston State and City Normal School,.....	785
VERMONT,	789
Randolph State Normal School ; Johnson State Normal School,.....	790
NEBRASKA,.....	791
Peru State Normal School,.....	792
OHIO,	793
Report on Professional Training of Teachers, by Hon. E. E. White,.....	795
WEST VIRGINIA,.....	806
West Liberty State Normal School ; Guyandotte State Normal School,	806
DELAWARE,.....	807
Wilmington State Normal School,.....	807
LOUISIANA,	808
New Orleans State and City Normal School.....	808
MISSOURI,	809
St. Louis City Normal School,.....	809
INDIANA,.....	812
City Normal and Training Schools,.....	812
IOWA,	813

XIV. A CHAPTER* IN THE HISTORY OF NORMAL SCHOOLS

IN NEW ENGLAND.

IN the autumn of 1834, Rev. Charles Brooks, pastor of a church in Hingham, commenced his labors in behalf of common schools, and particularly of the establishment of a state system of supervision, and of a Normal School. Mr. Brooks had become interested in these features of a system of public education during a visit to Europe, and from an opportunity of becoming well acquainted with the details of the Prussian system, in conversation with Dr. Julius, who was his companion across the Atlantic, during his voyage home, when the latter gentleman was on his visit to this country on a commission from the Government of Prussia, to examine into our system of prison discipline. As will be seen hereafter, that visit was twice blessed—it helped, by disseminating a knowledge of our improvements in prisons, and our amelioration of the criminal code, to advance the cause of humanity in Europe, and make known among our statesmen and educators the progress which had been made in Germany in the means and agencies of popular education. Mr. Brooks' first public effort was on the 3d of December, 1835, in a thanksgiving address to his people, in which he gave a sketch of the Prussian system of education, and proposed the holding a series of conventions of the friends of common schools to agitate the subject of establishing a Normal School in the old colony. The first of these conventions was held on the 7th of December, 1836, and continued in session two days. This was followed by a second, at Hingham, on the 11th; at Duxbury, on the 18th; at New Bedford, on the 21st and 23d; at Fair Haven, on the 23d; and at East Bridgewater, on the 24th and 25th of the same month. Mr. Brooks continued his labors in the county in the autumn and winter following, sometimes before conventions, and sometimes by his individual appointment. He was at Kingston on the 16th of January, 1837; at South Hingham, February 4th; at Quincy, February 21st; at Dunbury, May 10th; at Hansen, July 9th; at Plymouth, October 24th; and at Weymouth, November 5th.

The labors of this gentleman were not confined to the old colony, or even to the State of Massachusetts. In the course of the same year he lectured at Northampton, Springfield, Deerfield, Boston, Middleborough, and other places in Massachusetts, in 1836 and 1837, and particularly in the Hall of the House of Representatives on the 18th and 19th of January, 1837, during the memorable session of the Legislature, in which the Board of Education was instituted; and on the 28th of January, 1838, during the no less memorable session, by which the first appropriation in behalf of Normal Schools was made. His theme every where was the

* From Barnard's "*Normal Schools and other Institutions, Agencies and Means designed for the professional Education of teachers. Part I. United States. Part II. Europe.*" H. Cowperthwait & Co. Philadelphia.

Teacher—" *As is the Teacher, so is the School*,"—and the aim of all his discourses was to induce individuals and legislatures to establish Normal Schools and other agencies for improving the qualifications and the pecuniary and social condition of the teacher, as the source of all other improvements in popular education. His facts and illustrations were drawn from the experience of Prussia and Holland. Mr. Brooks closed his active labors in this cause in Massachusetts after he had the satisfaction of seeing the Board of Education established, and the first Normal School opened; but not until he had made a powerful effort to get one of these institutions located in Plymouth county, by means of the educational convention held at Hanover, on the 3d of September, 1838, which was graced by the presence and address of several of the most distinguished public men in the commonwealth. After noticing the proceedings of that convention, we will return to our narrative.

At a meeting of the "Plymouth County Association for the Improvement of Common Schools," held at Hanover, September 3d, 1838, the question of a *Normal School in Plymouth County* was discussed by an array of distinguished men, such as the cause has seldom brought together in this country. The following notice of the proceedings is abridged from the Hingham Patriot. After an address by Mr. Mann, Secretary of the Board of Education, on "*Special Preparation, a Pre-requisite to Teaching*," Rev. Mr. Brooks, of Hingham, introduced a resolution approving of a plan, proposed by a committee of the Association, to raise in the several towns in the county a sum sufficient to provide a building, fixtures, and apparatus, in order to secure the location of one of the three Normal Schools which the Board proposed to establish in Plymouth county. Mr. Brooks excused himself from advocating the resolution, inasmuch as he had reiterated his views on the subject in every town in the county, and published them in two addresses through the press; he therefore gave way to friends from abroad, who had come with strong hands and warm hearts to aid in the holy work.

Mr. Ichabod Morton, of Plymouth, who had, two years before, out of a large heart, and small resources, offered to meet one tenth of the expense of the enterprise, advocated the raising up better teachers, who, by a Christian education, could carry the happiness of childhood fresh and whole through life.

Mr. Rantoul, of Gloucester, thought a reformation in our common schools was exceedingly needed, and this change for the better could only be effected by better teachers, well paid, and permanently employed.

Rev. George Putnam, of Roxburg:—

"For himself he saw no objection to the establishment of Normal Schools. But perhaps some might say, there was no need of special preparation for a teacher. To this opinion he must emphatically object. If there be any department for the able and proper performance of whose duties special instruction be absolutely necessary it is that of the educator. He said he had once kept school, and with tolerable acceptance, he believed, to his employers, but though just from college, he found himself deficient in the very first steps of elementary knowledge. He had studied all the mathematics required at Cambridge, but he did not know how to come at a young mind so as successfully to teach enu-

EDUCATIONAL CONVENTION IN PLYMOUTH COUNTY.

meration. He had studied the classics; but he could not teach a boy how to construct a simple English paragraph. He found himself wanting in that highest of arts, the art of simplifying difficult things so that children can grasp them. He therefore, from his own experience, ventured to say, that no liberal profession so comes short of its objects as that of the schoolmaster. Few, very few, apprehend its difficulties. To know how to enter the child's soul, and when there to know what to do, is knowledge possessed but by few, and if there be a province in which specific preparation be necessary it is this; and this very preparation is what Normal Schools promise to confer. We want no law schools, or any higher schools or colleges at this time, so much as we want seminaries, to unfold the young minds of this community. Another objection might be with some, that a Normal School in Plymouth County was some trick of the rich to get advantage of the poor. He ably refuted this objection. He said it happened to have a directly opposite tendency. It was to be a free school; free in tuition and open to the poorest of the poor. It would eminently benefit the poor. The rich would not go to it except where a great love of teaching actuated a rich young person. On the other hand it would be a free school where a very superior education would be furnished gratis to any one who wished to become a teacher in the county. Another objection might be felt by some, viz., that it may tend to raise the wages of our teachers. To this he replied, that females might become teachers to a wider extent than now. It would, moreover, raise common schools to be the best schools in the community; and when they had become the best schools, as they should be, then the money now spent in private schools would be turned in to the public ones, as in the Latin School at Boston, and higher wages could be given without any additional burden on our towns. He asked why should not the great mass of the people have the best schools? Why should not talent and money be expended on town schools as well as on academies and colleges? Let the town schools be made as good as to force all parents, from mere selfishness, to send their children. Let all our young people come together, as republicans should, find common sympathies, and move by a common set of nerves. The Normal School, while it opens infinite advantages to the poor, will lessen their burdens and elevate them to knowledge and influence."

Hon. John Quincy Adams:—

"He had examined the subject of late, and he thought the movements in this county by the friends of education had been deliberate and wise and Christian; and he thought the plan, contemplated by the very important resolution before the meeting, could not but find favor with every one who would examine and comprehend it. All accounts concur in stating a deficiency of competent teachers. He said, when he came to that meeting, he had objections to the plan rising in his mind; but those objections had been met and so clearly answered, that he now was convinced of the wisdom and forecast of the project, and that it aimed at the best interests of this community. Under this head, and alluding to his views, he said, the original settlers of New England were the first people on the face of the globe who undertook to say that all children should be educated. On this our democracy has been founded. Our town schools, and town meetings, have been our stronghold in this point; and our efforts now are to second those of our pious ancestors. Some kingdoms of Europe have been justly praised for their patronage of elementary instruction, but they were only following our early example. Our old system has made us an enlightened people, and I feared that the Normal School system was to subvert the old system, take the power from the towns and put it into the state, and overturn the old democratic principle of sustaining the schools by a tax on property; but, I am happy to find that this is not its aim or wish; but on the contrary, it is accordant to all the old maxims, and would elevate the town schools to the new wants of a growing community. He said, he thought of other objections, but they were so faint as to have faded out of his mind. We see monarchs expending vast sums, establishing Normal Schools through their realms, and sparing no pains to convey knowledge and efficiency to all the children of their poorest subjects. *Shall we be outdone by Kings?* Shall monarchies steal a march on republics in the patronage of that education on which a republic is based? On this great and glorious cause let us expend freely, yes, *more* freely than on any other. There was a usage, he added, in the ancient republic of Sparta, which now

occurred to him, and which filled his mind with this pleasing idea, viz., that these endeavors of ours for the fit education of all our children would be the means of raising up a generation around us which would be superior to ourselves. The usage alluded to was this: the inhabitants of the city on a certain day collected together and marched in procession; dividing themselves into three companies; the old, the middle-aged, and the young. When assembled for the sports and exercises, a dramatic scene was introduced, and the three parties had each a speaker; and Plutarch gives the form of phraseology used in the several addresses on the occasion. The old men speak first; and addressing those beneath them in age, say,—

“We have been in days of old
Wise, generous, brave, and bold.”

Then come the middle-aged, and casting a triumphant look at their seniors, say to them,—

“That which in days of yore ye were,
We, at the present moment, are.”

Last march forth the children, and looking bravely upon both companies who had spoken, they shout forth thus:—

“Hereafter at our country’s call,
We promise to surpass you all.”

Hon. Daniel Webster:—

“He was anxious to concur with others in aid of the project. The ultimate aim was to elevate and improve the primary schools; and to secure competent instruction to every child which should be born. No object is greater than this; and the means, the forms and agents are each and all important. He expressed his obligation to town schools, and paid a tribute to their worth, considering them the foundation of our social and political system. He said he would gladly bear his part of the expense. The town schools need improvement; for if they are no better now than when he attended them, they are insufficient to the wants of the present day. They have, till lately, been overlooked by men who should have considered them. He rejoiced at the noble efforts here made of late, and hoped they might be crowned with entire success. * * It has become the fashion to teach every thing through the press. Conversation, so valued in ancient Greece, is overlooked and neglected; whereas it is the richest source of culture. We teach too much by manuals, too little by direct intercourse with the pupil’s mind; we have too much of words, too little of things. Take any of the common departments, how little do we really know of the practical detail, say geology. It is taught by books. It should be taught by excursions in the fields. So of other things. We begin with the abstracts, and know little of the detail of facts; we deal in generals, and go not to particulars; we begin with the representative, leaving out the constituents. Teachers should teach things. It is a reproach that the public schools are not superior to the private. If I had as many sons as old Priam, I would send them all to the public schools. The private schools have injured, in this respect, the public; they have impoverished them. They who should be in them are withdrawn; and like so many uniform companies taken out of the general militia, those left behind are none the better. This plan of a Normal School in Plymouth County is designed to elevate our common schools, and thus to carry out the noble ideas of our pilgrim fathers. There is growing need that this be done. But there is a larger view yet. Every man and every woman, every brother and every sister, is a teacher. Parents are eminently teachers. Every man has an interest in the community, and helps his share to shape it. Now, if Normal Schools are to teach teachers, they enlist this interest on the right side; they make parents and all who any way influence childhood competent to their high office. The good which these Seminaries are thus to spread through the community is incalculable. They will turn all the noblest enthusiasm of the land into the holy channel of knowledge and virtue. Now, if our Plymouth school succeeds, they will go up in every part of the state, and who then can compute the exalted character which they may finally create among us? In families there will be better teaching, and the effect will be felt throughout society. This effort thus far has done good. It has raised in many minds a clear conviction of the importance of competent teachers; and a clear benefit

to follow this will be, to raise the estimation in which teachers should be held. He hoped that this course of policy would raise, even beyond what we expected, the standard of elementary instruction. He considered the cost very slight. It can not come into any expanded mind as an objection. If it be an experiment, it is a noble one, and should be tried."

[Mr. Webster has always stood out a bold and eloquent advocate of common schools. In his centennial address at Plymouth, in 1822, he paid the following noble tribute to the policy of New England in this respect:—

"In this particular, New England may be allowed to claim, I think, a merit of a peculiar character. She early adopted and has constantly maintained the principle, that it is the undoubted right, and the bounden duty of government, to provide for the instruction of all youth. That which is elsewhere left to chance, or to charity, we secure by law. For the purpose of public instruction, we hold every man subject to taxation in proportion to his property, and we look not to the question, whether he himself have, or have not, children to be benefited by the education for which he pays. We regard it as a wise and liberal system of police, by which property, and life, and the peace of society are secured. We seek to prevent, in some measure, the extension of the penal code, by inspiring a salutary and conservative principle of virtue and of knowledge in an early age. We hope to excite a feeling of respectability, and a sense of character, by enlarging the capacity, and increasing the sphere of intellectual enjoyment. By general instruction, we seek, as far as possible, to purify the whole moral atmosphere; to keep good sentiments uppermost, and to turn the strong current of feeling and opinion, as well as the censures of the law, and the denunciations of religion, against immorality and crime. We hope for a security, beyond the law, and above the law, in the prevalence of enlightened and well-principled moral sentiment. We hope to continue and prolong the time, when, in the villages and farm-houses of New England, there may be undisturbed sleep within unbarred doors. And knowing that our government rests directly on the public will, that we may preserve it, we endeavor to give a safe and proper direction to that public will. We do not, indeed, expect all men to be philosophers or statesmen; but we confidently trust, and our expectation of the duration of our system of government rests on that trust, that by the diffusion of general knowledge and good and virtuous sentiments, the political fabric may be secure, as well against open violence and overthrow, as against the slow but sure undermining of licentiousness."

In a speech delivered at Madison, Indiana, after congratulating the people of the state on the attention they had paid to common school education, Mr. Webster adds:—

"Among the planets in the sky of New England—the burning lights, which throw intelligence and happiness on her people—the first and most brilliant is her system of common schools. I congratulate myself that my first speech on entering public life was in their behalf. Education, to accomplish the ends of good government, should be universally diffused. Open the doors of the school-house to all the children of the land. Let no man have the excuse of poverty for not educating his own offspring. Place the means of education within his reach, and if they remain in ignorance, be it his own reproach. If one object of the expenditure of your revenue be protection against crime, you could not devise a better or cheaper means of obtaining it. Other nations spend their money in providing means for its detection and punishment, but it is for the principles of our government to provide for its never occurring. The one acts by *coercion*, the other by *prevention*. On the diffusion of education among the people rests the preservation and perpetuation of our free institutions. I apprehend no danger to our country from a foreign foe. The prospect of a war with any powerful nation is too remote to be a matter of calculation. Besides, there is no nation on earth powerful enough to accomplish our overthrow. Our destruction, should it come at all, will be from another quarter. From the inattention of the people to the concerns of their government—from their care-

EDUCATIONAL CONVENTION IN PLYMOUTH COUNTY.

lessness and negligence—I must confess that I do apprehend some danger. I fear that they may place too implicit a confidence in their public servants, and fail properly to scrutinize their conduct,—that in this way they may be made the dupes of designing men, and become the instruments of their own undoing. Make them intelligent, and they will be vigilant—give them the means of detecting the wrong, and they will apply the remedy.”]

Rev. Dr. Robbins remarked—

“As the offer of the Normal Schools had been first made to the Old Colony, that “mother of us all,” he hoped that the descendants of the pilgrims would sustain the exalted character of their fathers; and, as in times past, so now, go forward in improvements which are to elevate and bless all coming generations.”

The object of the Convention was attained. One of the three Normal Schools which the Board had decided to establish out of the donation of \$10,000, by Mr. Dwight, and the appropriation of the same sum by the state, placed at their disposal, was located at Bridgewater, in Plymouth County.

A previous convention in Plymouth County, at Halifax, on the 24th of January, 1837, had adopted a petition to the Legislature, drawn up by the Rev. Charles Brooks,* asking for the Establishment of a Board of Education, and a Teachers’ Seminary; and in the same year, the Directors of the American Institute of Instruction presented a memorial on the same subject, drawn up by George B. Emerson,† of Boston. The Board of Education was established in that year, and the Normal School in the year following.

* Although not directly connected with the history of Normal Schools in Massachusetts, it may be mentioned in this place, that no individual in the whole country has done more to arouse the public mind of New England to the importance of Normal Schools, and to some extent, the leading minds of some other states, than the Rev. Charles Brooks. He lectured before the Legislature of New Hampshire, by their request, at Concord, on the 13th, 14th, and 15th of June, 1837 and 1838, and again in 1845, and in the former year at Keene, Portsmouth, Concord, and Nashua; before the Legislature of Vermont, in 1847, and at several other points in that state; before the State Convention of the friends of education at Hartford, Connecticut, in November, 1838; before the Legislature of New Jersey, March 13, 1839; at Philadelphia about the same time; and at Providence in 1838, during the struggle which ended in the re-organization of the public schools of that city, and at a later period, when the establishment of the Public High School was in jeopardy. On one of these visits, Mr. Brooks delivered eight addresses in seven days. These, however, are not all the times and places in which we have met with notices of his labors and addresses in behalf of his favorite subject. Although his labors, every where, in his own country and out of it, in his own state and out of it, were gratuitous, he did not escape the assaults of the newspapers. In one of these, he was represented as “Captain Brooks,” with ferule in hand, at the head of a troop of schoolmasters and schoolmistresses, marching for a Normal School in the clouds.

† Mr. Emerson commenced his career as a teacher, in a district school, and before opening his private school for young ladies, he was principal of the English High School, in Boston, on its first establishment, in 1821. Under his immediate direction, Colburn’s “First Lessons in Intellectual Arithmetic,” printed on separate sheets for this purpose, were first tested, and the deficiencies ascertained in the classes of this school. If Mr. Emerson had rendered no other service to the cause of educational improvement in this country, than to have successfully organized the First Public English High School, and have assisted in perfecting the “First Lessons,” he would be entitled to a large measure of the gratitude of teachers and the public generally.

MEMORIAL

OF THE

AMERICAN INSTITUTE OF INSTRUCTION TO THE LEGISLATURE OF MASSACHUSETTS ON NORMAL SCHOOLS.

(Submitted January, 1837.)

TO THE HONORABLE THE LEGISLATURE
OF THE COMMONWEALTH OF MASSACHUSETTS.

The Memorial of the Directors of the American Institute of Instruction, praying that provision may be made for the better preparation of the teachers of the schools of the Commonwealth, respectfully sheweth :

THAT there is, throughout the Commonwealth, a great want of well-qualified teachers :

That this is felt in all the schools, of all classes, but especially in the most important and numerous class, the district schools :

That wherever, in any town, exertion has been made to improve these schools, it has been met and baffled by the want of good teachers ; that they have been sought for in vain ; the highest salaries have been offered, to no purpose ; that they *are not to be found* in sufficient numbers to supply the demand :—

That their place is supplied by persons exceedingly incompetent, in *many* respects ; by young men, in the course of their studies, teaching from necessity, and often with a strong dislike for the pursuit ; by mechanics and others wanting present employment ; and by persons who, having failed in other callings, take to teaching as a last resort, with no qualifications for it, and no desire of continuing in it longer than they are obliged by an absolute necessity :—

That those among this number who have a natural fitness for the work, now gain the experience, without which no one, whatever his gifts, can become a good teacher, by the sacrifice, winter after winter, of the time and advancement of the children of the schools of the Commonwealth :

That every school is now liable to have a winter's session wasted by the unskillful attempts of an instructor, making his first experiments in teaching : By the close of the season, he may have gained some insight into the mystery, may have hit upon some tolerable method of discipline, may have grown somewhat familiar with the books used and with the character of the children ; and, if he could go on in the same school for successive years, might become a profitable teacher : but whatever he may have gained *himself*, from his experiments, he will have failed too entirely of meeting the just expectations of the district, to leave him any hope of being engaged for a second term : He accordingly looks elsewhere for the next season, and the district receives another master, to have the existing regulations set aside, and to undergo another series of experiments : We do not state the fact too strongly, when we say, that *the time, capacities, and opportunities of thousands of the children are now sacrificed, winter after winter*, to the preparation of teachers, who, after this enormous sacrifice, are, notwithstanding, often very wretchedly prepared :

That many times, no preparation is even aimed at : that such is the known demand for teachers of every kind, with or without qualifications, that candidates present themselves for the employment, and committees, in despair of finding better, employ them, who have no degree of fitness for the work : that committees are obliged to employ, to take charge of their children, men to whose incompetency they would reluctantly commit their farms or their workshops :

That the reaction of this deplorable incompetency of the teachers, upon the minds of the committees, is hardly less to be deplored, hardly less alarming, as it threatens to continue the evil and render it perpetual : Finding they cannot get suitable teachers at any price, they naturally apportion the salary to the value of the service rendered, and the consequence is, that, in many places, the wages of a teacher are below those given in the humblest of the mechanic arts

and instances are known, of persons of tolerable qualifications as teachers, declining to quit, for a season, some of the least gainful of the trades, on the ground of the lowness of the teachers' pay.

We merely state these facts, without enlarging upon them, as they have already too great and melancholy a notoriety. We but add our voice to the deep tone of grief and complaint which sounds from every part of the State.

We are not surprised at this condition of the teachers. We should be surprised if it were much otherwise.

Most of the winter schools are taught for about three months in the year; the summer not far beyond four. They are, therefore, of necessity, taught, and must continue to be taught, by persons who, for two-thirds or three-fourths of the year, have other pursuits, in qualifying themselves for which they have spent the usual period, and which, of course, they look upon as the main business of their lives. They cannot be expected to make great exertions and expensive preparation for the work of teaching, in which the standard is so low, and for which they are so poorly paid.

Whatever desire they might have, it would be almost in vain. There are now no places suited to give them the instruction they need.

For every other profession requiring a knowledge of the principles of science and the conclusions of experience, there are special schools and colleges, with learned and able professors, and ample apparatus. For the preparation of the teachers, there is almost none. In every other art ministering to the wants and conveniences of men, masters may be found ready to impart whatsoever of skill they have to the willing apprentice; and the usage of society justly requires that years should be spent under the eye of an adept, to gain the requisite ability. An apprentice to a schoolmaster is known only in tradition.

We respectfully maintain that it ought not so to be: so much of the intelligence and character, the welfare and immediate and future happiness of all the citizens, now and hereafter, depends on the condition of the common schools, that it is of necessity a matter of the dearest interest to all of the present generation; that the common education is to such a degree the palladium of our liberties, and the good condition of the common schools, in which that education is chiefly obtained, so vitally important to the *stability* of our State, to our very *existence* as a *free* State, that it is the most proper subject for legislation, and calls loudly for legislative provision and protection. The common schools ought to be raised to their proper place; and this can only be done by the better education of the teachers.

We maintain that provision ought to be made by the *State* for the education of teachers; *because*, while their education is so important to the State, their condition generally is such as to put a suitable education entirely beyond their reach; *because*, by no other means is it likely that a system shall be introduced, which shall prevent the immense annual loss of time to the schools, from a change of teachers; and *because*, the qualifications of a first-rate teacher are such as cannot be gained but by giving a considerable time wholly to the work of preparation.

In his calling, there is a peculiar difficulty in the fact, that whereas, in other callings and professions, duties and difficulties come on gradually, and one by one, giving ample time, in the intervals, for special preparation, in *his* they all come at once. On the first day on which he enters the school, his difficulties meet him with a single, unbroken, serried front, as numerous as they ever will; and they refuse to be separated. He cannot divide and overcome them singly, putting off the more formidable to wrestle with at a future time; he could only have met them with complete success, by long forecast, by months and years of preparation.

The qualifications requisite in a good teacher, of which many have so low and inadequate an idea, as to think them almost the instinctive attributes of every man and every woman, we maintain to be excellent qualities, rarely united in a high degree in the same individual, and to obtain which one *must* give, and may *well* give, much time and study.

We begin with the *lowest*. He must have a *thorough knowledge* of whatever he undertakes to teach. If it were not so common, how absurd would it seem, that one should undertake to communicate to another fluency and grace in the

beautiful accomplishment of reading, without having them himself; or to give skill in the processes of arithmetic, while he understood it so dimly himself as to be obliged to follow the rules, as blindly as the child he was teaching! And yet, are there not many teachers yearly employed by committees, from the impossibility of finding better, who, in reading and arithmetic, as in every thing else, are but one step before, if they do not fall behind, the foremost of their own pupils? Is it not so in geography, in English grammar, in every thing, in short, which is now required to be taught?

If the teacher understood thoroughly what is required in the usual, prescribed course, it would be *something*. But we maintain that the teachers of the public schools ought to be able to *do much more*. In every school occasions are daily occurring, on which, from a well-stored mind, could be imparted, upon the most interesting and important subjects, much that would be of the greatest value to the learner, at the impressible period of his pupilage. Ought not these occasions to be provided for? Besides, there are always at least a few forward pupils, full of talent, ready to make advances far beyond the common course. Such, if their teacher could conduct them, would rejoice, instead of circling again and again in the same dull round, to go *onward*, in other and higher studies, so manifestly valuable, that the usual studies of a school seem but as steps, intended to lead up to them.

In the second place, a teacher should so understand the *ordering* and *discipline* of a school, as to be able at once to introduce system, and to keep it constantly in force. Much precious time, as already stated, is lost in making, changing, abrogating, modeling and remodeling rules and regulations. And not only is the time *utterly lost*, but the changes are a source of *perplexity* and *vexation* to master and pupil. A judicious system of regulations not only takes up no time, but *saves* time for every thing else. We believe there are few persons to whom this knowledge of system comes without an effort, who are *born* with such an aptitude to order that they fall into it naturally and of course.

In the third place, a teacher should know *how* to teach. This, we believe, is the rarest and best of his qualifications. Without it, great knowledge, however pleasant to the possessor, will be of little use to his pupils; and with it, a small fund will be made to produce great effects. It cannot, with propriety, be considered a single faculty. It is rather a practical knowledge of the best methods of bringing the truths of the several subjects that are to be taught, to the comprehension of the learner. Not often does the same method apply to several studies. It must vary with the nature of the truths to be communicated, and with the age, capacity, and advancement of the pupil. To possess it fully, one must have ready command of elementary principles, a habit of seeing them in various points of view, and of promptly seizing the one best suited to the learner; a power of awakening his curiosity, and of adapting the lessons to the mind, so as to bring out its faculties naturally and without violence. It therefore supposes an acquaintance with the *minds* of children, the order in which their faculties expand, and by what discipline they may be nurtured, and their inequalities repaired.

This knowledge of the human mind and character may be stated as a fourth qualification of a teacher. Without it, he will be always groping his way darkly. He will disgust the forward and quick-witted, by making them linger along with the slow; and dishearten the slow, by expecting them to keep pace with the swift. He will fail of the peculiar end of right education, the quickening to life and action those faculties which, without his fostering care, would have been left to lie dormant.

Whoever considers to how great a degree the successful action of the mind depends on the state of the feelings and affections, will be ready to admit that an instructor should know so much of the connection and subordination of the parts of the human character, as to be able to enlist them all in the same cause, to gain the *heart* to the side of advancement, and to make the *affections* the ministers of truth and wisdom.

We have spoken very briefly of some of the qualifications essential to a good teacher. It is hardly necessary to say, that there are still higher qualifications, which ought to belong to the persons who are to have such an influence upon the character and well-being of the future citizens of the Commonwealth; who, be-

sides parents, can do more than all others toward training the young to a clear perception of right and wrong, to the love of truth, to reverence for the laws of man and of God, to the performance of all the duties of good citizens and good men. The teacher ought to be a person of elevated character, able to win by his manners and instruct by his example, *without* as well as *within* the school.

Now it is known to your memorialists that a very large number of those, of both sexes, who now teach the summer and the winter schools, are, *to a mournful degree*, wanting in all these qualifications. Far from being able to avail themselves of opportunities of communicating knowledge on various subjects, they are grossly ignorant of what they are called on to teach. They are often without experience in managing a school; they have no skill in communicating. Instead of being able to stimulate and guide to all that is noble and excellent, they are, not seldom, persons of such doubtful respectability and refinement of character, that no one would think, for a moment, of holding them up as models to their pupils. In short, they know *not what* to teach, nor *how* to teach, nor in *what spirit* to teach, nor what is the nature of *those* they undertake to *lead*, nor what they are *themselves*, who stand forward to lead them.

Your memorialists believe that these are evils of *portentous moment* to the future welfare of the people of this Commonwealth, and that, while they bear heavily on all, they bear especially and with disproportioned weight upon the poorer districts in the scattered population of the country towns. The wealthy are less directly affected by them, as they can send their children from home to the better schools in other places. The large towns are not affected in the same degree, as their density of population enables them to employ teachers through the year, at salaries which command somewhat higher qualifications.

We believe that you have it in your power to adopt such measures as shall forthwith diminish these evils, and at last remove them; and that this can only be done by providing for the better preparation of teachers.

We therefore pray you to consider the expediency of instituting, for the special instruction of teachers, one or more seminaries, either standing independently, or in connection with institutions already existing; as you shall, in your wisdom, think best.

We also beg leave to state what we conceive to be essential to such a seminary.

1. There should be a professor or professors, of piety, of irreproachable character and good education, and of tried ability and skill in teaching.

2. A library, not necessarily large, but well chosen, of books on subjects to be taught, and on the art of teaching.

3. School-rooms, well situated, and arranged, heated, ventilated, and furnished, in the manner best approved by experienced teachers.

4. A select apparatus of globes, maps, and other instruments most useful for illustration.

5. A situation such that a school may be connected with the seminary, accessible by a sufficient number of children, to give the variety of an ordinary district school.

We beg leave also further to state the manner in which we conceive that such a seminary would be immediately useful to the schools within the sphere of its influence.

We do not believe that the majority of the district schools in the Commonwealth will soon, if ever, be taught by permanent teachers. We believe that they will continue to be taught, as they are now, by persons who, for the greater part of the year, will be engaged in some other pursuit: that, as in the early history of Rome, the generous husbandman left his plough to fight the battles of the state, so, in Massachusetts, the free and intelligent citizen will, for a time, quit his business, his workshop, or his farm, to fight, for the sake of his children and the state, a more vital battle against immorality and ignorance. And we rejoice to believe that it will be so. So shall the hearts of the fathers be in the schools of their children: so shall the teachers have that knowledge of the world, that acquaintance with men and things, so often wanting in the mere schoolmaster, and yet not among the least essential of his qualifications.

But we wish to see these citizens enjoy the means of obtaining the knowledge

and practical skill in the art of teaching, which shall enable them to perform the duties of their additional office worthily.

Establish a seminary wherever you please, and it will be immediately resorted to. We trust too confidently in that desire of excellence which seems to be an element in our New England character, to doubt that any young man, who, looking forward, sees that he shall have occasion to teach a school every winter for ten years, will avail himself of any means within his reach, of preparation for the work. Give him the opportunity, and he cannot fail to be essentially benefited by his attendance at the seminary, if it be but for a *single month*.

In the first place, he will see there an example of right ordering and management of a school; the spirit of which he may immediately imbibe, and can never after be at a loss, as to a *model* of management, or in doubt as to its *importance*.

In the second place, by listening to the teaching of another, he will be convinced of the necessity of preparation, as he will see that success depends on thorough knowledge and a direct action of the teacher's own mind. This alone would be a great point, as many a schoolmaster hears reading and spelling, and looks over writing and arithmetic, without ever attempting to give any instruction or explanation, or even thinking them necessary.

In the third place, he will see put in practice methods of teaching; and though he may, on reflection, conclude that none of them are exactly suited to his own mind, he will see the value of method, and will never after proceed as he would have done, if he had never seen methodical teaching at all.

In the next place, he will have new light thrown upon the whole work of education, by being made to perceive that its great end is not mechanically to communicate ability in certain operations, but to draw forth and exercise the whole powers of the physical, intellectual, and moral being.

He will, moreover, hardly fail to observe the importance of the *manners* of an instructor, and how far it depends on himself to give a tone of cheerfulness and alacrity to his school.

In the last place, if the right spirit prevail at the seminary, he will be prepared to enter upon his office with an exalted sense of its importance and responsibility—not as a poor drudge, performing a loathsome office for a miserable stipend, but as a delegate of the authority of *parents* and the *State*, to form men to the *high duties of citizens* and the *infinite destinies of immortality*, answerable to them, their country, and their God for the righteous discharge of his duties.

Now we believe that this single month's preparation would be of immense advantage to a young instructor.

Let him now enter the district school. He has a definite idea of what arrangements he is to make, what course he is to pursue, what he is to take hold of first. He knows that he is himself to teach, he knows *what* to teach, and, in some measure, *how he is to set about it*. He feels how much he has to do to prepare himself, and how much depends on his self-preparation. He has some conception of the duties and responsibilities of his office. At the end of a single season, he will, we venture to say, be a better teacher than he could have been after half a dozen, had he not availed himself of the experience of others. He will hardly fail to seek future occasions to draw more largely at the same fountain.

Let us not be understood as offering this statement of probable results as mere conjecture. They have been confirmed by all the experience, to the point, of a single institution in this State, and of many in a foreign country. What is thus, from experience and the reason of things, shown to be true in regard to a short preparation, will be still more strikingly so of a longer one.

To him, who shall make teaching the occupation of his life, the advantages of a Teachers' Seminary cannot easily be estimated. They can be faintly imagined by him only, who, lawyer, mechanic, or physician, can figure to himself what would have been his feelings, had he, on the first day of his apprenticeship, been called to perform, at once, the duties of his future profession, and, after being left to suffer for a time the agony of despair at the impossibility, had been told that two, three, seven years should be allowed him to prepare himself, with all the helps and appliances which are now so bountifully furnished to him,—which are furnished to *every one* except the teacher.

We have no doubt that teachers, prepared at such a seminary, would be in

such request as to command, at once, higher pay than is now given, since it would unquestionably be found good economy to employ them.

It raises no objection, in the minds of your memorialists, to the plan of a seminary at the State's expense, that many of the instructors there prepared would teach for only a portion of the year. It is *on that very ground* that they ought to be aided. For their daily callings they will take care to qualify themselves; they cannot, unaided, be expected to do the same in regard to the office of teacher, because it is a casual and temporary one; it is one which they will exercise, in the intervals of their stated business, for the good of their fellow-citizens. They ought, for that especial reason, to be assisted in preparing for it. The gain will be theirs, it is true; but it will be still more the gain of the community. It will be theirs, inasmuch as they will be able to command better salaries; but it will be only in consideration of the more valuable services they will render. The gain will be shared by other schools than those they teach. Seeing what can be done by *good* teachers, districts and committees will no longer rest satisfied with *poor*, and the standard will every where rise.

If it were only as enabling teachers throughout the State to teach, as they should, the branches now required to be taught, the seminaries would be worth more than their establishment can cost. But they would do much more. They would render the instruction given more worthy, in kind and degree, the enlightened citizens of a free State.

Without going too minutely into this part of the subject, we cannot fully show how the course of instruction might, in our judgment, be enlarged. We may be allowed to indicate a few particulars.

The study of geometry, that benignant nurse of inventive genius, is at present pursued partially, in a few of the town schools. We may safely assert that, under efficient teachers, the time now given to arithmetic would be amply sufficient, not only for that, but for geometry, and its most important applications in surveying and other useful arts. To a population so full of mechanical talent as ours, this is a lamentable omission.

We may also point to the case of drawing in right lines. It might, with a saving of time, be ingrafted on writing, if the instructors were qualified to teach it. This beautiful art, so valuable as a guide to the hand and eye of every one, especially of every handcraftsman, and deemed almost an essential in every school of France, and other countries of Europe, is, so far as we can learn from the Secretary's excellent report, entirely neglected in every public school in Massachusetts.

We might make similar observations in regard to book-keeping, now beginning to be introduced; natural philosophy, physiology, natural history, and other studies, which might come in, not to the exclusion, but to the manifest improvement, of the studies already pursued.

When we consider the many weeks in our long northern winters, during which, all through our borders, the arts of the husbandman and builder seem, like the processes of the vegetable world, to hold holiday, and the sound of many a trowel and many an ax and hammer ceases to be heard, and the hours, without any interruption of the busy labors of the year, might be given to learning by the youth of both sexes, almost up to the age of maturity, these *omissions*, the *unemployed intellect*, the golden days of early manhood *lost*, the acquisitions that *might* be made and *are not*, assume a vastness of importance which may well alarm us.

It may possibly be apprehended, that should superior teachers be prepared in the seminaries of Massachusetts, they would be invited to other States by higher salaries, and the advantage of their education be thus lost to the State. We know not that it ought to be considered an undesirable thing that natives of Massachusetts, who will certainly go, from time to time, to regions more favored by nature, should go with such characters and endowments as to render their chosen homes more worthy to be the residence of intelligent men. But we apprehend it to be an event much more likely to happen, that the successful example of Massachusetts should be imitated by her sister republics, emulous, as New York already shows herself, of surpassing us in what has hitherto been the chief glory of New England, a jealous care of the public schools.

For the elevation of the public schools to the high rank which they ought to

hold in a community, whose most precious patrimony is their liberty, and the intelligence, knowledge, and virtue on which alone it can rest, we urge our prayer. We speak boldly, for we seek no private end. We speak in the name and behalf of those who cannot appear before you to urge their own suit, the sons and daughters of the present race, and of all, of every race and class of coming generations in all future times.

For the directors of the American Institute of Instruction.

George B. Emerson; S. R. Hall; W. J. Adams; D. Kimball; E. A. Andrews; B. Greenleaf; N. Cleveland, *Committee*.

The above Memorial was prepared in pursuance of the following votes of the Institute.

At the Annual Meeting, in Boston, in August, 1836, the subject of the Professional Education of Teachers was ably discussed, and the following resolutions, offered by Mr. Frederic Emerson, of Boston, were adopted:—

Resolved, “That the business of teaching should be performed by those who have studied the subject of instruction as a profession. Therefore,

Resolved, That there ought to be at least one seminary in each state, devoted exclusively to the education of teachers; and that this seminary should be authorized to confer appropriate degrees.”

At a later period of the session, Mr. Morton, of Plymouth, proposed another resolution for the purpose of securing some action:—

Resolved, “That a committee be appointed to obtain funds by soliciting our State Legislature the next session, and by inviting individual donations for the purchase of land and the erection of the necessary buildings, and to put in operation a seminary to qualify teachers of youth for the most important occupation of mankind on the earth.”

After a long and ardent debate, the following was offered as an amendment, by Mr. F. Emerson, and was adopted:—

Ordered, “That the Board of Directors be instructed to memorialize the Legislature on the subject of establishing a seminary for the “*education of teachers*.”

A memorial was accordingly prepared by Mr. George B. Emerson, in behalf of a committee of the Directors, and submitted to the Legislature in January, 1837, by whose order it was printed and circulated with the other documents of the session. This paper is the ablest argument in behalf of a Normal School which had appeared up to that date; and will not suffer in comparison with any which the discussion of the subject has at any time called forth. It however did not lead to any legislative action during that session, but undoubtedly prepared the way. In the mean time, the Legislature, on the recommendation of the Governor, and of the Committee of Education, of which James G. Carter was chairman, and of a Memorial by the Directors of the Institute in 1836, which was drawn up by Mr. George B. Emerson, passed an Act instituting the Board of Education.

By the action of this Board, and the labors of its Secretary, and the well-timed liberality of Edmund Dwight, in 1838, the idea of a Normal School, so long advocated by the friends of school improvement, became a recognized fact in the legislation of Massachusetts. Previous to any action on the part of the Legislature, an experiment had been commenced as a private enterprise at Andover, in connection with one of the best conducted academies of the state.

STATE NORMAL SCHOOLS IN MASSACHUSETTS.

The following brief account of the history and organization of the State Normal Schools, in Massachusetts, is copied from the "Tenth Annual Report of the Secretary of the Board of Education."

"In a communication made by the Secretary of the Board of Education to the Legislature, dated March 12, 1838, it was stated that private munificence had placed at his disposal the sum of ten thousand dollars, to be expended, under the direction of the Board of Education, for qualifying teachers for our Common Schools, on condition that the Legislature would place in the hands of the Board an equal sum, to be expended for the same purpose.

On the 19th of April, of the same year, resolves were passed, accepting the proposition, and authorizing the Governor, with the advice and consent of the Council, to draw his warrant upon the treasurer for the sum of ten thousand dollars, to be placed at the disposal of the Board for the purpose specified in the original communication."

The following is a copy of the Resolve and of the Report of the Committee on the subject :

"The Joint Committee, to whom was referred the communication of the Hon. Horace Mann, Secretary of the Board of Education, relative to a fund for the promotion of the cause of popular education in this Commonwealth, and also the memorial of the Nantucket County Association for the promotion of education, and the improvement of schools, and also the petition and memorial of the inhabitants of the town of Nantucket, on the same subject, having duly considered the matter therein embraced, respectfully report,

That the highest interest in Massachusetts is, and will always continue to be, the just and equal instruction of all her citizens, so far as the circumstances of each individual will permit to be imparted; that her chief glory, for two hundred years, has been the extent to which this instruction was diffused, the result of the provident legislation, to promote the common cause, and secure the perpetuity of the common interest; that for many years a well-grounded apprehension has been entertained, of the neglect of our common town schools by large portions of our community, and of the comparative degradation to which these institutions might fall from such neglect; that the friends of universal education have long looked to the Legislature for the establishment of one or more seminaries devoted to the purpose of supplying qualified teachers, for the town and district schools, by whose action alone other judicious provisions of the law could be carried into full effect; that at various times, the deliberation of both branches of the General Court has been bestowed upon this, among other subjects, most intimately relating to the benefit of the rising generation and of all generations to come, particularly when the provision for instruction of school teachers was specially urged on their consideration, in 1827, by the message of the Governor, and a report thereupon, accompanied by a bill, was submitted by the chairman, now a member of the Congress of the United States, following out to their fair conclusions, the suggestion of the Executive, and the forcible essays of a distinguished advocate of this institution at great length, published and widely promulgated; that although much has been done within two or three years, for the encouragement of our town schools by positive enactment, and more by the liberal spirit, newly awakened in our several communities, yet the number of competent teachers is found, by universal experience, so far inadequate to supply the demand for them, as to be the principal obstacle to improvement, and the greatest deficiency of our republic; that we can hardly expect, as in the memorials from Nantucket is suggested, to remove this deficiency even in a partial degree, much less to realize the completion of the felicitous system of our free schools, without adopting means for

more uniform modes of tuition and government in them, without better observing the rules of prudence in the selection of our common books, the unlimited diversity of which is complained of throughout the State, and that these benefits may reasonably be expected to follow from no other course than a well-devised scheme in full operation, for the education of teachers; that the announcement, in the communication recently received from the Secretary of the Board of Education, of that private munificence, which offers \$10,000 to this Commonwealth, for removal of this general want, at least in the adoption of initiatory measures of remedy, is received by us with peculiar pleasure, and, in order that the General Court may consummate this good, by carrying forward the benevolent object of the unknown benefactor, the committee conclude, with recommending the passage of the subjoined resolutions.

All which is respectfully submitted,

JAMES SAVAGE, per order.

RESOLVES

RELATIVE TO QUALIFYING TEACHERS FOR COMMON SCHOOLS.

Whereas, by letter from the Honorable Horace Mann, Secretary of the Board of Education, addressed, on the 12th March current, to the President of the Senate, and the Speaker of the House of Representatives, it appears, that private munificence has placed at his disposal the sum of ten thousand dollars, to promote the cause of popular education in Massachusetts, on condition that the Commonwealth will contribute from unappropriated funds, the same amount in aid of the same cause, the two sums to be drawn upon equally from time to time, as needed, and to be disbursed under the direction of the Board of Education in qualifying teachers for our Common Schools; therefore,

Resolved, That his Excellency, the Governor, be, and he is hereby authorized and requested, by and with the advice and consent of the Council, to draw his warrant upon the Treasurer of the Commonwealth in favor of the Board of Education, for the sum of \$10,000, in such installments and at such times, as said Board may request: *provided*, said Board, in their request, shall certify, that the Secretary of said Board has placed at their disposal an amount equal to that for which such application may by them be made; both sums to be expended, under the direction of said Board, in qualifying teachers for the Common Schools in Massachusetts.

Resolved, That the Board of Education shall render an annual account of the manner in which said moneys have been by them expended."

"The Board, after mature deliberation; decided to establish three Normal Schools; one for the north-eastern, one for the south-eastern, and one for the western part of the State. Accordingly, one was opened at Lexington, in the county of Middlesex, on the 3d day of July, 1839. This school, having outgrown its accommodations at Lexington, was removed to West Newton, in the same county, in Sept., 1844, where it now occupies a commodious building.

The second Normal School was opened at Barre, in the county of Worcester, on the 4th day of September, 1839. This school has since been removed to Westfield, in the county of Hampden, both on account of the insufficiency of the accommodations at Barre, and because the latter place is situated east of the centre of population of the western counties.

The third school was opened at Bridgewater, on the 9th day of Sept., 1840, and is permanently located at that place.

For the two last-named schools, there had been, from the beginning, very inadequate school-room accommodations. In the winter of 1845, a memorial, on behalf of certain friends of education in the city of Boston and its vicinity, was presented to the Legislature, offering the sum of five thousand dollars, to be obtained by private subscriptions, on condition that the Legislature would give an equal sum, for the purpose of erecting two Normal School-houses; one for the school at Westfield and one for that at Bridgewater. By resolves of March 20, 1845, the proposition of

the memorialists was accepted and the grant made ; and by the same resolves it was ordered, 'that the schools heretofore known as Normal Schools, shall be hereafter designated as State Normal Schools.'

The school at West Newton is appropriated exclusively to females ; those at Bridgewater and Westfield admit both sexes.

Among the standing regulations adopted by the Board, for the government of the State Normal Schools, are the following—most of which were adopted in the beginning, and have been constantly in force ; only a few modifications, and those very slight ones, having since been introduced :

ADMISSION. As a prerequisite to admission, candidates must declare it to be their intention to qualify themselves to become school teachers. If they belong to the State, or have an intention and a reasonable expectation of keeping school in the State, tuition is gratuitous. Otherwise, a tuition-fee is charged, which is intended to be about the same as is usually charged at good academies in the same neighborhood. If pupils, after having completed a course of study at the State Normal Schools, immediately engage in school keeping, but leave the State, or enter a private school or an academy, they are considered as having waived the privilege growing out of their declared intention to keep a Common School in Massachusetts, and are held bound in honor to pay a tuition-fee for their instruction.

If males, pupils must have attained the age of seventeen years complete, and of sixteen, if females ; and they must be free from any disease or infirmity, which would unfit them for the office of school teachers.

They must undergo an examination, and prove themselves to be well versed in orthography, reading, writing, English grammar, geography and arithmetic.

They must furnish satisfactory evidence of good intellectual capacity and of high moral character and principles.

Examinations for admission take place at the commencement of each term, of which there are three in a year.

TERM OF STUDY. At West Newton and Bridgewater, the minimum of the term of study is one year, and this must be in consecutive terms of the schools. In regard to the school at Westfield, owing to the unwillingness of the pupils in that section of the State to remain at the school, even for so short a time as one year, the rule requiring a year's residence has been from time to time suspended. It is found to be universally true, that those applicants whose qualifications are best, are desirous to remain at the school the longest.

COURSE OF STUDY. The studies first to be attended to in the State Normal Schools, are those which the law requires to be taught in the district schools, namely, orthography, reading, writing, English grammar, geography and arithmetic. When these are mastered, those of a higher order will be progressively taken.

For those who wish to remain at the school more than one year, and for all belonging to the school, so far as their previous attainments will permit, the following course is arranged :

1. Orthography, reading, grammar, composition, rhetoric and logic.
2. Writing and drawing.
3. Arithmetic, mental and written, algebra, geometry, book-keeping, navigation, surveying.
4. Geography, ancient and modern, with chronology, statistics and general history.
5. Human Physiology, and hygiene or the Laws of Health.
6. Mental Philosophy.
- 7 Music.

8. Constitution and History of Massachusetts and of the United States.
9. Natural Philosophy and Astronomy.
10. Natural History.
11. The principles of piety and morality, common to all sects of Christians.

12. THE SCIENCE AND ART OF TEACHING WITH REFERENCE TO ALL THE ABOVE NAMED STUDIES.

RELIGIOUS EXERCISES. A portion of the Scriptures shall be read daily, in every State Normal School.

VISITERS. Each Normal School is under the immediate inspection of a Board of Visitors, who are in all cases to be members of the Board of Education, except that the Secretary of the Board may be appointed as one of the visitors of each school.

The Board appoints one Principal Instructor for each school, who is responsible for its government and instruction, subject to the rules of the Board, and the supervision of the Visitors. The Visitors of the respective schools appoint the assistant instructors thereof.

To each Normal School, an Experimental or Model School is attached. This School is under the control of the Principal of the Normal School. The pupils of the Normal School assist in teaching it. Here, the knowledge which they acquire in the science of teaching, is practically applied. The art is made to grow out of the science, instead of being empirical. The Principal of the Normal School inspects the Model School more or less, daily. He observes the manner in which his own pupils exemplify, in practice, the principles he has taught them. Sometimes, all the pupils of the Normal School, together with the Principal, visit the Model School in a body, to observe the manner in which the teachers of the latter, for the time being, conduct the recitations or exercises. Then, returning to their own school-room, in company with the assistant teachers themselves, who have been the objects of inspection, each one is called upon to deliver his views, whether commendatory or otherwise, respecting the manner in which the work has been performed. At this amicable exposition of merits and defects, the Principal of the Normal School presides. After all others have presented their views, he delivers his own; and thus his pupils, at the threshold of their practice, have an opportunity to acquire confidence in a good cause, of which they might otherwise entertain doubts, and to rectify errors which otherwise would fossilize into habit.

The salaries of the teachers of the State Normal Schools are paid by the State."

The following Rules were adopted for the regulation of the Normal Schools, at a meeting of the Board of Education, held in December, 1849.

1. No new applicants for admission to the Normal Schools shall be received except at the commencement of the term.
2. It shall be the duty of the Secretary of the Board and of one of the visitors to be present on the first day of the term, for the examination of the candidates for admission.
3. There shall be two periods for the admission of new members, the time to be fixed by the visitors of each school.
4. Candidates for admission at the West Newton Normal School must promise to remain four consecutive terms; and at the other Normal Schools, three consecutive terms. An exception may be made in the case of persons of more than ordinary experience and attainments.
5. It shall be the duty of the principals of the several Normal Schools to make a report, at the end of each term, to the visitors, and if, in their judgment, any do not promise to be useful as teachers, they shall be dismissed.
6. The course of study in each of the Normal Schools shall begin with a re-

view of the studies pursued in the common schools, viz: reading, writing, orthography, English grammar, mental and written arithmetic, geography, and physiology.

7. The attention of pupils, in the Normal Schools, shall be directed, 1. To a thorough review of elementary studies; 2. To those branches of knowledge which may be considered as an expansion of the above-named elementary studies, or collateral to them; 3. To the art of teaching and its modes.

8. The advanced studies shall be equally proportioned, according to the following distribution, into three departments, viz.: 1. The mathematical, including algebra through quadratic equations; geometry, to an amount equal to three books in Euclid; book-keeping; and surveying. 2. The philosophical, including natural philosophy, astronomy, moral and intellectual philosophy, natural history, particularly that of our own country, and so much of chemistry as relates to the atmosphere, the waters, and the growth of plants and animals. 3. The literary, including the critical study of the English language, both in its structure and history, with an outline of the history of English literature; the history of the United States, with such a survey of general history as may be a suitable preparation for it; and historical geography, ancient and mediæval, so far as is necessary to understand general history, from the earliest times to the period of the French Revolution.

9. "The art of teaching and its modes" shall include instruction on the philosophy of teaching and discipline, as drawn from the nature and condition of the juvenile mind; the history of the progress of the art, and the application of it to our system of education; and as much exercise in teaching under constant supervision, toward the close of the course, as the circumstances and interests of the model schools will allow.

10. Members of the Normal Schools may, with the consent of the respective boards of visitors, remain as much longer than the period required, as they may desire.

NOTE. 1866.

The Normal School first located at Lexington in 1839, and removed to West Newton in 1844, was in 1853 removed to Framingham. A fourth State Normal School was established in Salem in 1853—and like that at Framingham is devoted exclusively to the education and professional training of young women as teachers, while those at Westfield and Bridgewater admit young persons of both sexes.

The State appropriates a thousand dollars a year to each school, or four thousand dollars in all, for the aid of pupils whose means are inadequate, and to equalize the expense of attendance.

In the year 1864, the State appropriated \$20,000 to the annual expenses of the four State Normal Schools, besides \$2,490.85 towards the repair and enlargement of buildings.

In addition to the sum appropriated by the State, the Board of Education apply the income of the "Todd Fund," (the avails of a bequest by Henry Todd of Boston in 1849, amounting to \$12,000,) to the payment of teachers of music, and of lecturers in natural science.

A particular account of each of these State Normal Schools will be given.

In addition to the State Normal Schools, the city of Boston established in 1852 a Normal School for female teachers, which is now maintained as the Girls' High and Normal School; and in 1864, a Special Department in the same, for training teachers for the Primary Schools.

VI. TEACHER'S CONFERENCES

AND OTHER MODES OF PROFESSIONAL IMPROVEMENT.

I. CITY OF CHICAGO.

THE RULES OF THE BOARD OF EDUCATION in the city of Chicago provide—in addition to a weekly meeting of all the teachers of each of the large graded schools, both High and District, in their several school-houses, for the purposes of discussing and illustrating methods of discipline and instruction, and the general interests of the school—for an *Institute* to be held as follows:

It shall be the duty of all the teachers of the Public Schools to meet on the first Saturday of each school month, at the High School building, for the purpose of holding an Institute for their own improvement in teaching, under the direction of the Board of Education. The exercises shall commence at 9 A. M., and close at 12 M., with a recess of twenty minutes. Before the close of each Institute, the Superintendent shall adopt such measures as he shall deem best to secure a full and accurate account of the attendance of the teachers. At the close of each term, the Superintendent shall report to the Board all cases of absence or tardiness, or leaving before the close of the Institute, that have occurred during the term.

Of the operations of these Monthly Institutes, and other means of professional improvement among the teachers of the Public Schools of Chicago, the Superintendent (WILLIAM H. WELLS,) in his Annual Report, submitted December 31st, 1862, thus speaks:

Monthly Meetings of Teachers.

The Monthly Institutes of Teachers have been held during the year, in accordance with the rules of the Board, and the attendance of the teachers has, in most cases, been regular and prompt. The time has been occupied with model exercises of classes from the different schools, drill exercises of classes composed of teachers, reading the "*Chicago Teacher*," conducted by the ladies, lectures, discussions, and remarks by the Superintendent.

The number of teachers is now so much increased that it is found impracticable to introduce drill exercises in any portion of the course of study, that will be equally profitable to all. Teachers of the first and second grade classes have no special interest in exercises adapted to the ninth and tenth grade classes, and *vice versa*. To remedy this evil, we have adopted the plan of having the general exercises of the Institute during the first part of the forenoon, with all the teachers together, and dividing the Institute into five sections during the last hour for drill exercises and discussions adapted to the wants of the several sections. Teachers of the first and second grade classes constitute the first section; those of the third and fourth grade classes, the second section, and so on

through all the grades. Each section, embracing two grades of the course, has one or more drill exercises every month. By this arrangement, we have five exercises going forward simultaneously, and the teachers of each section take up only those subjects in which they are particularly interested.

The management of the Institute has been left by the Board in the hands of the Superintendent, and it has been my uniform practice to invite a committee of the teachers to aid me in arranging the successive programmes of exercises. In most other cities, the programme of exercises is always prepared by the Superintendent. This is a safeguard against the introduction of discussions upon the policy and measures of the Board of Education, and other irrelevant topics. Except in the matter of attendance, the course I have adopted has given to the Institute much of the freedom of a voluntary association, and thus far I have found very few evils resulting from it. I do not recollect a single instance during the past year in which the committee have desired to introduce a subject for discussion that I did not approve.

The teachers have performed cheerfully the parts assigned them, and the interest of the meetings has been well sustained through the year.

The advantages resulting from frequent meetings of teachers, especially in cities and larger towns, are now generally admitted, and every teacher who is desirous of advancing in his profession, finds that he can derive important aid from a careful comparison of his own views and methods with those of other teachers. But notwithstanding this general agreement of opinion respecting the value and importance of Teachers' Institutes, there is still very great diversity of practice in different cities and towns respecting the frequency or infrequency of holding them, the manner in which they are conducted, and the voluntary or involuntary character of the attendance.

For the purpose of ascertaining the opinions of prominent educators on this subject, and the practice of different cities, I recently sent out letters of enquiry to nearly all the principal cities of the Northern States. The answers received from over one hundred different towns, have put me in possession of very full and satisfactory information on all the points to which I have alluded. The following is a condensed summary of the results:

1. In most of the cities of the Western States, the engagements with teachers are made with the express understanding that they shall attend Institutes for professional improvement as often as once a month. These meetings are usually held on Saturdays, and the sessions are from two to three hours in length. In most cases, an account is kept of the attendance of the teachers, and absences from the Institutes are regarded the same as absences from any of the regular sessions of the schools. In many Western cities, more than one half of the whole number, the Institutes are held as often as twice in a month; and in as many as ten or twelve cities, every week.

In more than half of the cities of the Middle States, the teachers are required to attend Institutes as often as once a month, but this practice, except in Pennsylvania,* is not so general in the Middle as in the Western States.

In the New England States, there is not one city in ten in which the rules of the School Directors require the teachers to hold meetings for professional

* An Act was passed in April, 1862, requiring all the teachers of the public schools to devote two Saturdays of each month to exercises or Institutes for their mutual improvement.

improvement so often as once a month, and in most Eastern cities, the Directors have no rule on this subject.*

2. Another means of improving the qualifications of teachers, is the organization of Saturday Normal Classes, which all teachers of limited experience, or those holding certificates below the first grade, are expected to attend.†

In some cities, attendance at the Normal Classes is optional with the teachers, and in others it is required by the rules of the Directors.

In a few cases, the weekly Normal Classes are designed to benefit both the assistants already employed in the schools, and the candidates for situations in them. In Baltimore, no applicant is eligible to an appointment as assistant, till she has first attended at least twenty-six sessions of the Normal Class.

The labors of the faithful teacher are sufficiently exhausting, without the additional effort of preparing several lessons to be recited at the close of every week, and the time required to attend the weekly Normal Class during a series of terms or years, is greatly needed for healthful relaxation and exercise. While, therefore, I take pleasure in reporting the increased attention that is given to monthly and semi-monthly Institutes of Teachers, I must be allowed to express the opinion, that weekly Normal Classes of Teachers can never meet with general favor among judicious friends of education.

3. Voluntary associations of teachers for purposes of professional improvement, have generally failed to accomplish the object sought. The testimony on this point is abundant and unequivocal. There are few cities in which these associations secure the constant attendance of even half the number of teachers connected with the schools; and most of the voluntary associations that have maintained a permanent existence, have been composed chiefly of Masters and teachers of the higher grades, and have failed to reach and benefit the great body of Grammar and Primary assistants.

*The following classified list embraces most of the cities which belong to either of the divisions described above:

Attendance at Institutes required once a month.—Buffalo, N. Y.; Cincinnati, virtually—and Columbus, O.; Detroit, Mich.; Louisville, Ky.; Evansville, Ind.; Chicago, Springfield; Warsaw, and Alton, Ill.; St. Louis, Mo.; St. Paul, Min.

Attendance required once in two weeks.—Brattleboro', Vt.; Norwich, Conn.; Rochester and Syracuse, N. Y.; Mansfield, Norwalk, Toledo, and Zanesville, O.; Grand Rapids, Ann Arbor, Kalamazoo, and Adrian, Mich.; Indianapolis and New Albany, Ind.; Peoria, Quincy, Galena, and Galesburg, Ill.; Kenosha, Wis.; Dubuque, Iowa.

Attendance required once a week.—Oswego, two terms in a year, Elmira, two terms in a year, and Schenectady, N. Y.; Sandusky, O.; Fort Wayne, Ind.; Newport, Ky.; Rock Island, Ill.; Davenport, Iowa; Racine, Madison, Janesville, and Sheboygan, Wis.

No rule requiring attendance as often as once a month.—Portland, Bangor, Brunswick, Bath, Me.; Manchester, Concord, Nashua, Portsmouth, N. H.; Burlington, Vt.; Boston, Charlestown, Lowell, Cambridge, Lawrence, Roxbury, Salem, Newburyport, New Bedford, Gloucester, Worcester, Fall River, Mass.; Hartford, New Haven, New London, Conn.; Providence, Bristol, Newport, R. I.; New York, Brooklyn, Troy, Albany, Utica, N. Y.; Philadelphia, Penn.; Baltimore, Md.; Wilmington, Del.; Cleveland and Dayton, O.; Dixon, Ill.; Des Moines, Iowa City, Cedar Rapids, Muscatine, Iowa; Minneapolis, Minn.

Returns have been received from about twenty cities not embraced in the foregoing classes. Some of these are included in the list of cities requiring Saturday Normal Classes, some are governed by the special law of Pennsylvania, and in others the teachers are called together at irregular intervals.

† Schools of this description have been established in New York, Brooklyn, and Buffalo, N. Y.; Concord, N. H.; Newark and Patterson, N. J.; Bloomington, Ill.; Baltimore, Cincinnati, St. Louis, San Francisco, and a few other cities. In St. Louis, New York, Brooklyn, and Concord, these schools have, for various reasons, been either suspended temporarily, or entirely abandoned.

4. The numerous letters received from different portions of the country, afford the fullest evidence of a growing interest in the professional improvement of teachers; and in several instances, the more active and progressive teachers have themselves requested the Directors to establish Institutes, which all the teachers should be required to attend.

In cities where Teachers' Institutes are established by order of the School Directors, the best teachers are generally the most ready to attend, and the most interested in the exercises; while those who really need them most are usually the first to complain that they are burdensome, uninteresting, and profitless.

The greatest obstacle to the success of Teachers' Institutes, is found in the feeling which still prevails to a considerable extent, that they encroach upon the time that properly belongs to the teachers. No effort should be spared to remove this impression, and secure the cheerful attendance of the teachers upon the meetings, and their hearty interest in them. The first and most important measure to be adopted, is to have a full and definite understanding, that all engagements with teachers include attendance upon the Institutes and an active participation in their exercises; and that absence from one of these meetings is quite as important a neglect of duty as absence from school during any of the regular sessions. Another means of securing this object would be the establishment of uniformity in the practice of different cities. If the custom of devoting a certain number of hours in a month to exercises for mutual improvement was universal, no teacher would think of objecting to it. We are not to expect that this uniformity will be secured at once, but the practice of exchanging school reports, which is every year increasing, is already exerting a manifest influence in this direction. If each member of the Board, in this and other cities, would spend but two or three hours in the year at these meetings, it would do very much to encourage the teachers, and stimulate them to put forth their best efforts to render the exercises interesting and profitable.

Practical drill exercises, on some subject connected with the daily routine of the school-room, and in which all the teachers are expected to take a part, should form a part of the programme of every Teachers' Institute. It is those who sit as passive listeners, or in passive listlessness, that are not interested and not benefited.

Teachers' Meetings in School Hours.

In Boston* and Chicago, and a few other cities, the Superintendents are authorized to call occasional meetings of certain classes of teachers in school hours, for the purpose of discussing methods of instruction and discipline. In most cases, the teachers that are called together for this purpose, dismiss their divisions for the half day; but a single division or class is sometimes retained for purposes of experimental instruction.

In some cities, all the teachers of each school are called together by the Principal once a week, for the purpose of conferring together respecting the general interests of the school.

* The following is the rule of the Boston School Committee :

"The Superintendent shall advise the teachers on the best methods of instruction and discipline, and, to illustrate these methods in respect to Primary Schools, he shall hold occasional meetings of the teachers of the schools, and have authority to dismiss the Primary Schools at such time as he shall deem advisable, not exceeding one-half day in each quarter. He has authority, also, to dismiss the Grammar Schools, not exceeding one-half day in each half year, for the purpose of holding meetings, of the teachers of these schools."

The teachers of our High School have a regular weekly meeting, which has been sustained from the organization of the school to the present time.

I have an abiding conviction that these meetings may be made to exert a highly beneficial influence; and I would respectfully recommend that a rule be adopted requiring each of the Principals to dismiss his school an hour before usual time of closing, one day in a week, for the purpose of holding a meeting of the teachers, to discuss methods of instruction and discipline, and confer together respecting the general interests of the school.

As a specimen of the manner in which the progress of teachers in knowledge and spirit was kept up in Prussia, under the lead of School-Counselor Bernhardt, we append an extract from his journal of the last week's proceedings of a Teacher's Conferences.

IMPROVEMENT OF SCHOOL-TEACHERS.

At the commencement of the late school efforts in Prussia, for the benefit of teachers already in the profession who had not possessed the advantages of a regular training, it was the custom for them to assemble during the weeks of vacation in their schools, and, under the care of a competent teacher, go through a regular course of lessons for their improvement. Of the entire course a careful and minute journal was kept and transmitted to the government. The following is from the journal of a four weeks' course of this kind, which was held at Regenwald in 1821, under the charge of School-Counselor Bernhardt. The King gave his special approbation of this journal, and caused a large number of copies to be printed and circulated throughout the kingdom. The Minister of Public Instruction expresses himself respecting it in the following terms:—

"The view presented and acted upon by School-Counselor Bernhardt, that the important point is not the quantity and variety of knowledge communicated, but its solidity and accuracy; and that the foundation of all true culture consists in the education to piety, the fear of God, and Christian humility; and, accordingly, that those dispositions, before all things else, must be awakened and confirmed in teachers, that thereby they may exercise love, long-suffering, and cheerfulness, in their difficult and laborious calling—these principles are the only correct ones, according to which the education of teachers every where, and in all cases, can and ought to be conducted, notwithstanding the regard which must be had to the peculiar circumstances and the intellectual condition of particular provinces and communities. The Ministry hereby enjoin it anew upon the Regency, not only to make these principles their guide in their own labors in the common schools and Teachers' Seminaries, but also to commend and urge them in the most emphatic manner on all teachers and pupils in their jurisdiction. That this will be faithfully done, the Ministry expect with so much the more confidence, because in this way alone can the supreme will of his Majesty the King, repeatedly and earnestly expressed, be fulfilled. Of the manner in which the Regency execute this order, the Ministry expect a Report, and only remark further, that as many copies of the journal as may be needed will be supplied."

The strongly religious character of the instructions in the following journal will be noticed; but will any *Christian* find fault with this characteristic, or with the King and Ministry for commending it?

The journal gives an account of the employment of every hour in the day, from half past six in the morning to a quarter before nine in the evening. Instead of making extracts from different parts of it, I here present the entire journal for the last week of the course, that the reader may have the better opportunity of forming his own judgment on the real merits of the system.

FOURTH WEEK.

Monday, Oct. 22.—A. M. 6½–7. Meditation. Teachers and parents, forget not that your children are men, and that, as such, they have the ability to become reasonable. God will have all men to come to the knowledge of the truth. As men, our children have the dignity of men, and a right to life, cultivation, honor, and truth. This is a holy, inalienable right, that is, no man can divest himself of

it without ceasing to be a man. 7-8½. Bible instruction. Reading the Bible and verbal analysis of what is read. Jesus in the wilderness. 9-12. Writing. Exercise in small letters. P. M. 2-5. Writing as before. 5½-7. Singing. 8-8½. Meditation. Our schools should be Christian schools for Christian children, and Jesus Christ should be daily the chief teacher. One thing is needful. Jesus Christ, the same yesterday, to-day, and forever. The great end of our schools, therefore, is the instruction of children in Christianity; or the knowledge of heavenly truths in hope of eternal life; and to answer the question, What must I do to be saved? Our children, as they grow up, must be able to say, from the conviction of their hearts, We know and are sure that thou art the Christ, the Son of the living God. Beloved teachers, teach no Christianity without Christ, and know that there cannot be a living faith without knowledge and love.

Tuesday, Oct. 23.—A. M. 6-7. Meditation. Christian schools are the gardens of God's Spirit, and the plantations of humanity, and, therefore, holy places. How dreadful is this place! This is none other than the house of God. Teachers, venerate your schools—regard the sacred as sacred. 7-8½. Bible instruction. Reading of the Bible and verbal analysis of what is read. Luke xv. 1-10. 8½-9. Catechism. Repeating the second article with proper emphasis, and the necessary explanation of terms. 10-12. Writing. Exercise in German capitals, with the writing of syllables and words. P. M. 1-4. General repetition of the instructions for school-teachers given during the month. 4-5. Brief instruction respecting school discipline and school laws. 5-7. Singing. 8-8½. Meditation. Teachers, you should make your school a house of prayer, not a den of murderers. Thou shalt not kill—that is, thou shalt do no injury to the souls of thy children. This you will do if you are an ungodly teacher, if you neglect your duty, if you keep no order or discipline in your school, if you instruct the children badly, or not at all, and set before them an injurious example. The children will be injured also by hurrying through the school-prayers, the texts, and catechism, and by all thoughtless reading and committing to memory. May God help you!

Wednesday, Oct. 24.—6-6¾. Meditation. Dear teachers, you labor for the good of mankind and the kingdom of God; be, therefore, God's instruments and co-workers. Thy kingdom come. In all things approving ourselves as the ministers of God. 6¾-8½. Bible instruction as before, John iv. 1-15. 8½-9. Catechism. The correct and emphatic reading and repeating of the first section, with brief explanation of terms. 10-12. Instruction in school discipline and school laws. P. M. 1-3. Instruction in the cultivation of fruit-trees. For instruction in this branch of economy, the school is arranged in six divisions, each under the care of a teacher acquainted with the business, with whom they go into an orchard, and under his inspection perform all the necessary work. General principles and directions are written in a book, of which each student has a copy. More cooling is the shade, and more sweet the fruit, of the tree which thine own hands have planted and cherished. 3-5. Instruction in school discipline and school laws. 5½-½. Singing. 8-9. Meditation. The Christian school-teacher is also a good husband and father. Blameless, the husband of one wife, vigilant, sober, of good behavior, apt to teach, not given to wine, no striker, not greedy of filthy lucre, patient, not a brawler, not covetous, one that ruleth well his own house, having his children in subjection, with all gravity. He that readeth, let him understand.

Thursday, Oct. 25.—A. M. 6-6¾. Meditation. Dear teachers, do all in your power to live in harmony and peace with your districts, that you may be a helper of the parents in the bringing up of their children. Endeavor to maintain the unity of the Spirit in the bond of peace. As much as in you lies, live peaceably with all men. 6¾-9. Bible instruction as before, Luke vii. 11-17. Reading by sentences, by words, by syllables, by letters. Reading according to the sense, with questions as to the meaning. Understandest thou what thou readest? 10-11. Instructions as to prayer in schools. Forms of prayer suitable for teachers and children are copied and committed to memory. Lord, teach us to pray. 11-12. Writing. Exercise in capitals and writing words. P. M. 2-3. Instruction respecting prayer in the family and in the school. Forms of prayer for morning and evening, and at the table, are copied, with instructions that school children should commit them to memory, that they may aid their parents to an edifying performance of the duty of family worship; that, as the school

thus helps the family, so the family also may help the school. Use not vain repetitions. 3-5. Bible instruction. General views of the contents of the Bible, and how the teacher may communicate, analyze, and explain them to his children, yearly, at the commencement of the winter and summer terms. 5½-7. Singing. 8-9. Meditation. Teachers, acquire the confidence and love of your districts, but never forsake the direct path of duty. Fear God, do right, and be afraid of no man. The world, with its lusts, passeth away, but he that doeth the will of God shall abide forever.

Friday, Oct. 26.—Meditation. Teachers, hearken to the preacher, and labor into his hands; for he is placed over the Church of God, who will have the school be an aid to the Church. Remember them that labor among you, and are over you in the Lord, and esteem them highly in love for their works' sake. Neither is he that planteth any thing, nor he that watereth any thing, but God who giveth the increase. 7-9. Bible instruction. Summary of the contents of the Bible, to be committed to memory by children from ten to fifteen years of age. 10-12. Bible instruction. Brief statement of the contents of the historical books of the New Testament. P. M. 1-5. Bible instruction. Contents of the doctrinal and prophetical books of the New Testament. Selection of the passages of the New Testament proper to be read in a country school. A guide for teachers to the use of the Bible in schools. 5-7. Singing. 8-9. Meditation. Honor and love, as a good teacher, thy King and thy father-land; and awake the same feelings and sentiments in the hearts of thy children. Fear God, honor the King, seek the good of the country in which you dwell, for when it goes well with it, it goes well with thee.

Saturday, Oct. 27.—6-6½. Meditation. By the life in the family, the school, and the church, our heavenly Father would educate us and our children for our earthly and heavenly home; therefore parents, teachers, and preachers, should labor hand in hand. One soweth and another reapeth. I have laid the foundation, another buildeth thereon; and let every man take heed how he buildeth thereon. Means of education: 1. In the family—the parents, domestic life, habits; 2. In the school—the teacher, the instruction, the discipline; 3. In the church—the preaching, the word, the sacraments. 6½-9½. Bible instruction. Rules which the teacher should observe in reading the Bible. In analyzing it. In respect to the contents of the Old Testament books, and selections from them for reading, written instructions are given and copied, on account of the shortness of the time which is here given to this topic. 10-12. Bible instruction. General repetition. P. M. 1-4. Bible instruction. General repetition. 4-5. Reading. Knowledge of the German language, with written exercises. 7-10½. Review of the course of instruction and the journal. 10½-12. Meditation. The prayer of Jesus (John xvii.), with particular reference to our approaching separation.

Sunday, Oct. 28.—6½-9. Morning prayer. Catechism. Close of the term. (In the open air on a hill at sunset) singing and prayer. Address by the head teacher. Subject. What our teacher would say to us when we separate from him. 1. What you have learned apply well, and follow it faithfully. If ye know these things, happy are ye if ye do them. 2. Learn to see more and more clearly that you know but little. We know in part. 3. Be continually learning, and never get weary. The man has never lived who has learned all that he might. 4. Be yourself what you would have your children become. Become as little children. 5. Let God's grace be your highest good, and let it strengthen you in the difficulties which you must encounter. My grace is sufficient for thee—my strength is perfect in thy weakness. 6. Keep constantly in mind the Lord Jesus Christ. He has left us an example that we should follow his steps. Hymn—Lord Jesus Christ, hearken thou to us. Prayer. Benediction.

Review of the hours spent in different studies during the four weeks. Arithmetic, sixty-seven; writing, fifty-six; Bible, twenty-five; meditation, thirty-six; other subjects, twenty-six; singing, twenty-eight. Total, two hundred and thirty-eight. From nine to ten, in the morning, was generally spent in walking together, and one hour in the afternoon was sometimes spent in the same manner.

Familiar lectures were given on the following topics: 1. Directions to teachers as to the knowledge and right use of the Bible in schools. 2. Directions to teachers respecting instruction in writing. 3. Directions for exercises in mental arithmetic. 4. Instructions respecting school discipline and school laws. 5. A col-

lection of prayers for the school and family, with directions to teachers. 6. The German parts of speech, and how they may be best taught in a country school. 7. The day-book.

Printed books were the following: 1. Dinter's Arithmetic. 2. Dinter on Guarding against Fires. 3. Brief Biography of Luther. 4. On the Cultivation of Fruit-Trees. 5. German Grammar. 6. Baumgarten's Letter-Writer for Country Schools. 7. Luther's Catechism.

That which can be learned and practiced in the short space of a few weeks, is only a little—a very little. But it is not of so much importance that we have more knowledge than others; but most depends on this, that I have the right disposition; and that I thoroughly understand and faithfully follow out the little which I do know.

God help me, that I may give all which I have to my school; and that I, with my dear children, may, above all things, strive after that which is from above. Father in heaven, grant us strength and love for this.

[The following topics, principally on the internal arrangement and management of a common school were introduced by Mr. Barnard into his public addresses, and were drawn up in their present order, to direct in some measure the addresses and discussions, of teachers and others on the theory and practice of education, at meetings held for the special benefit of teachers. It is important that parents, and the public generally should understand the best principles and methods of school arrangement, instruction, and government, that they may sustain and coöperate with the good teacher in his arduous work in the school-room. The other topics thoroughly understood will facilitate the improvement of our school system.]

1. The daily preparation which the teacher should bring to the school-room.
2. The circumstances which make a teacher happy in school.
3. The requisites of success in teaching.
4. Causes of failure in teaching.
5. The course to be pursued in organizing a school.
6. The order of exercises or programme of recitations.
7. The policy of promulgating a code of rules for the government of a school.
8. The keeping of registers of attendance and progress.
9. The duties of the teacher to the parents of the children and to school-officers.
10. The opening and closing exercises of a school.
11. Moral and religious instruction and influence generally.
12. The best use of the Bible or Testament in school.
13. Modes of promoting a love of truth, honesty, benevolence, and other virtues among children.
14. Modes of promoting obedience to parents, respectful demeanor to elders, and general submission to authority.
15. Modes of securing cleanliness of person and neatness of dress, respect for the school-room, courtesy of tone and language to companions, and gentleness of manners.
16. Modes of preserving the school-house and appurtenances from injury and defacement.
17. Length and frequency of recess.
18. The games, and modes of exercise and recreation to be encouraged during the recess, and at intermission.
19. Modes of preventing tardiness, and securing the regular attendance of children at school.
20. Causes by which the health and constitution of children at school are impaired, and the best ways of counteracting the same.
21. The government of a school generally.
22. The use and abuse of corporal punishment.
23. The establishment of the teacher's authority in the school.
24. Manner of treating stubborn and refractory children, and the policy of dismissing the same from school.
25. Prizes and rewards.
26. The use and abuse of emulation.
27. Modes of interesting and bringing forward dull, or backward scholars.
28. Modes of preventing whispering, and communication between scholars in school.
29. Manner of conducting recitations generally; and how to prevent or detect imperfect lessons.
30. Methods of teaching, with illustrations of each, viz:
 - a. Monitorial.
 - b. Individual.
 - c. Simultaneous.
 - d. Mixed.
 - e. Interrogative.
 - f. Explanative.
 - g. Elliptical.
 - h. Synthetical.
 - i. Analytical.
31. Modes of having all the children of a school (composed as most District schools are, of children of all ages, and in a great variety of studies,) at all times something to do, and a motive for doing it.

32. Methods of teaching the several studies usually introduced into public schools—such as—

- a. The use, and nature, and formation of numbers.
- b. Mental Arithmetic.
- c. Written Arithmetic.
- d. Spelling.
- e. Reading.
- f. Grammar—including conversation, composition, analysis of sentences, parsing, &c.
- g. Geography—including map-drawing, use of outline maps, atlas, globes, &c.
- h. Drawing—with special reference to the employment of young children, and as preliminary to penmanship.
- i. Penmanship.
- j. Vocal music.
- k. Physiology—so far at least as the health of children and teacher in the school-room is concerned.

33. The apparatus and means of visible illustration, necessary for the schools of different grades.

34. The development and cultivation of observation, attention, memory, association, conception, imagination, &c.

35. Modes of inspiring scholars with enthusiasm in study, and cultivating habits of self-reliance.

36. Modes of cultivating the power and habit of attention and study.

37. Anecdotes of occurrences in the school, brought forward with a view to form right principles of moral training and intellectual development.

38. Lessons, on real objects, and the practical pursuits of life.

39. Topics and times for introducing oral instruction, and the use of lectures generally.

40. Manner of imparting collateral and incidental knowledge.

41. The formation of museums and collections of plants, minerals, &c.

42. Exchange of specimens of penmanship, map and other drawings, minerals, plants, &c., between the different schools of a town, or of different towns.

43. School examinations generally.

44. How far committees should conduct the examination.

45. Mode of conducting an examination by written questions and answers.

46. School celebrations, and excursions of the school, or a portion of the scholars, to objects of interest in the neighborhood.

47. Length and frequency of vacations.

48. Books and periodicals on education, schools and school systems.

49. Principles to be regarded in the construction of a school-house for schools of different grades.

50. Principles on which text-books in the several elementary studies should be composed.

51. The use of printed questions in text-books.

52. The private studies of a teacher.

53. The visiting of each other's schools.

54. The peculiar difficulties and encouragements of each teacher, in respect to school-house, attendance, supply of books, apparatus, parental interest and co-operation, support by committees, &c., &c.

55. The practicability of organizing an association of the mothers and females generally of a district or town, to visit schools, or of their doing so without any special organization.

56. Plan for the organization, course of instruction, and management generally of a Teachers Institute.

57. Advantages of an Association or Conference of the Teachers of a Town or State, and the best plan of organizing and conducting the same.

58. Plan of a Normal School or Seminary, for the training of Teachers for Common or Public Schools.

EDUCATIONAL ASSOCIATIONS IN THE UNITED STATES.

A History of Associations for the Advancement of Education in the United States, and for the Improvement of Public Schools in the several States, with an Introduction on the condition of these schools as to school-houses, books, studies, and teachers, prior to the organization of these Associations, together with brief Biographical Sketches of many of their Presidents and active members, and at least 60 Portraits by eminent artists—will be published by the undersigned as early in 1866 as the Subscription List will reimburse the expense of publication.

HENRY BARNARD,

Editor of American Journal of Education.

Hartford, Conn., Dec., 1865.

EDUCATIONAL CONVENTIONS AND ASSOCIATIONS IN THE UNITED STATES.

PART I.—National Associations—with an Introduction on the Condition of Schools and Education prior to 1800. 400 Pages.

PART II.—State Conventions and Associations for Educational Purposes, with Contributions to the History of Teachers' Institutes, School Journals, &c. 464 Pages.

☞ Each PART will be published and sold separately, at \$2.50, in paper cover, and without Portraits; and at \$3.50, with the Portraits, in cloth binding.

☞ The *Illustrated Edition* of each PART will contain at least 30 Portraits, from Engravings on Steel by the best Artists, to accompany brief Biographical Sketches of Presidents or Active Members of the Associations contained in that Part. This Edition will be limited to the number of copies subscribed for or ordered prior to going to press. As the Editor does not own, or control the use of many of the plates, this is probably the only opportunity of securing the portraits of so many active teachers and laborers in the educational field in connection with their biography. If preferred by any subscriber, the plates will be delivered detached from the volumes.

☞ Each Subscriber is requested, in forwarding his order, to specify the manner in which his copies can be sent with the least expense to him.

Although the publisher does not assume the risk and expense of delivering copies to subscribers, it is his expectation to forward, at his own expense, to some prominent point in each State, the copies subscribed for in such State.

Notice will be given by Circular, mailed to each subscriber, when the volumes are published, and where copies may be obtained.

THE RHODE ISLAND INSTITUTE OF INSTRUCTION.

On the suggestion of Mr. Barnard, a preliminary meeting was held in the City Council Chamber, on Friday evening, December 23d, 1844, of which N. Bishop, Superintendent of the Public Schools of Providence, was chairman. After the reading of a communication from Mr. Barnard, and remarks by Messrs. Kingsbury, Perry, and others, a committee was appointed consisting of Messrs. Kingsbury, Day, Perry, Bishop, and Stimpson, to take the subject into consideration and report at a future meeting.

The following Report, was submitted to a meeting in the State House, January 21, 1845, by Mr. Kingsbury, in behalf of the committee :

At the suggestion of Mr. Barnard, State Agent of Public Schools, a meeting of teachers and friends of education was held a few weeks since, in the City Council Chamber, for the purpose of considering the subject of a State Society for the promotion of public school education. Mr. N. Bishop, Superintendent of the Public Schools of Providence, was called to the chair, and after discussion by several individuals, it was voted, that Messrs. Kingsbury, Bishop, Perry, Day and Stimpson be a committee to take the subject into further consideration, and, if it be deemed expedient, to report at a future meeting. That committee having given the subject a considerable share of attention, beg leave to present the following report:

Whatever doubt may exist in regard to the influence of popular education in other countries, there can be none in regard to the United States. *Here* it may be assumed as an axiom that the people—the *whole* people—should be educated. Our institutions, civil, political, and religious, all imperatively demand it. *How* shall it be done? is the only question that admits of discussion. To this question only one rational answer can be given—chiefly by public schools.

Whatever influence may be exerted by the Press, by the College and High Schools in advancing education,—and we have no doubt but *that* influence is great and indispensable; it is not for a moment to be supposed that these means are sufficient to educate a *whole people*. History does not present a solitary example of a country or province where education has been universal, without some instrumentality analagous to Common Schools.

Literature and science may flourish where only the *wealthy few* are highly educated. It is possible that *the few*, by monopolizing the emoluments and privileges which superior knowledge confers, may, while the *many* are toiling in agriculture or mechanic arts, rise to higher attainments, and cause science and literature to take deeper root and to bring forth mature fruits. Though such fruits might bring blessings with them, the genius of our institutions requires rather the diffusion than the accumulation of knowledge. It was the boast of Henry IV., of France, that he would “take care that every peasant should be in such a condition as to have a fowl in his pot.” It should be the care of *our country* that *every child should be educated*.

Our forefathers laid us under deep obligations, therefore, when they consecrated the common school to the education of the people. Ought we not deeply to regret that within our own State that mission has not been fully accomplished. There are those among us who can not read or write. Never should the friends of education rest till this stain is wiped from the escutcheon of the State. Though we hail with delight the deep interest now beginning to be awakened in different parts of the State, still it is an important question what further can be done to give our public school system an impulse so vigorous as to send its fullest blessings to the most secluded district.

Light must be diffused in regard to the subject. Parents must be roused from apathy by having the evils of ignorance and the blessings of knowledge placed before them; the connection between crime and ignorance must be shown; it must be demonstrated that knowledge not only leads to higher elevation of character here and better hopes of a future life, but it must be proved that an intelligent, educated man will earn more money than an ignorant one; the incompetency of

teachers must be exposed, and public sentiment must be made to demand better; in short, we should all be brought to the full conviction that good public schools are a powerful safeguard of our country. In view of these and similar considerations, we deem it expedient to form, at the present time, a State Association for the promotion of public school education.

Mr. Barnard addressed the meeting on the necessity of associated and coöperated efforts on the part of all the parties to whom the education of the children and the youth of the State was committed. Teachers in the schools of the different grades, and in different parts of the State, know nothing of each other, and are sometimes thought to have antagonistic interests, instead of laboring together for professional improvement. Parents do not understand how much depends on home preparation and coöperation to aid the teacher. Public spirited citizens do not appreciate the connection between ignorance, and low vicious tastes, and habits ripening into crime, or see the pecuniary value of a good education.

The community generally need to understand better than now the necessary conditions of a successful system of public schools—good school-houses, intelligent and faithful committees, punctual and regular attendance of pupils, and above all, well qualified, permanently employed, and progressive teachers—and that all these conditions rested on liberal pecuniary appropriations, and these could not be had without an active, intelligent public interest in the Legislature, and in town and district meetings. To excite and direct this interest, frequent meetings and discussions must be held in every neighborhood of the State. One man, no matter how willing to work, or how industrious, could not get up and address as many meetings as it was desirable to hold. Wherever school-houses were to be built—and good school-houses were needed not only in every town, but in nearly every district—wherever a gradation system was practicable, and this could be effected in every manufacturing village—wherever permanent teachers could be employed, and this should be done in every town, and in all the large districts—wherever taxes on property were to be levied, and this was necessary in every town,—public opinion must be enlightened if wise and liberal measures were to be adopted. Here is a field in which every intelligent teacher and friend of education can take an active part under the auspices of a State Association, of which the people could not be jealous, as belonging to no particular party or sect.

Besides this great fundamental object of all individual and associated effort—the awakening of an inquiring, intelligent, and active interest on the whole subject of public schools and popular education—there were certain special measures, in which as State Commissioner he needed immediate help, if the interest already awakened was to be followed by permanent and extensive improvement in the organization and instruction of the public schools, and the education of the community. The advocacy of the public press must be enlisted. Not only the political and religious newspapers which circulate in the State must recognize and discuss the movement, but periodicals and tracts exclusively devoted to the thorough discussion of educational topics of general and local interest must be printed and distributed. Arrangements have already been made to have at least sixteen pages of educational reading matter attached to every Almanac sold in the State in the winter of 1844–45, by which he could *discern* already the germs of school reforms scattered broadcast in at least ten thousand families. By the wayside and fireside lectures and itinerating normal classes of William S. Baker in the southern portion of the State, a demonstration will be made of the value of a system of school inspection conducted by practical teachers and educators, and pervading

every town and district. By a cheap and comprehensive system of County Teachers' Institutes, gathering in, not a few, but a large majority of all the teachers of the State, each scholar under the instruction by day of accomplished and experienced professors, and with lectures and exercises in the evening will be sure to attract, interest, and instruct parents, school officers, and the people generally—the value of professional training, and glimpses at least of the science and art, and the results of education, will be seen and felt. Out of these and other measures will grow up the State Normal School, for the professional training of R. I., young men and young women for the teachers of the children and youth of the State, as well as Public Libraries and courses of Popular Lectures in every town and large village, by which the work of self-education will be carried on among the adults in the homes, the factories, and the field. This is the large comprehensive work in which he invited teachers of every name, and parents of every town, and public men of all parties and denominations to share in some plan of associated effort. The framework of such an association need be very simple, as was shown in the draft of the Constitution, which he read.

The Report of the Committee and this plan set forth by Mr. Barnard, after being discussed by Mr. Bishop, Dr. Hartshorn, Prof. Gammell, Hon. Wilkins Updike, Col. Pitman, Mr. Tourtellott, Mr. A. O. Peck, and the Rev. T. H. Gallaudet of Connecticut, was referred to a committee, of which Mr. Barnard was chairman, who were instructed to present a Constitution to an adjourned meeting to be held in Providence on the 24th ult.

At the adjourned meeting of the Westminster Hall, on the evening of January 25th, 1845, Hon. Wilkins Updike, of South Kingston, in the chair, the committee reported back the draft of a Constitution prepared by Mr. Barnard, which, after remarks by Mr. Barnard, Pres. Wayland, Prof. Caswell, Rev. Mr. Osgood, Mr. Perry, and Mr. Bishop, was adopted as follows :

Constitution.

ARTICLE 1. This association shall be styled the *Rhode Island Institute of Instruction*, and shall have for its object the improvement of public schools and other means of popular education in this State.

ARTICLE 2. Any person residing in this State may become a member of the Institute by subscribing this Constitution and contributing any sum towards defraying its incidental expenses.

ARTICLE 3. The officers of the Institute shall be a President, two or more Vice-Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, (with such powers and duties respectively as their several designations imply,) and Directors, who shall together constitute an Executive Committee.

ARTICLE 4. The Executive Committee shall carry into effect such measures as the Institute may direct ; and for this purpose, and to promote the general object of the Institute, may appoint special committees, collect and disseminate information, call public meetings for lectures and discussions, circulate books, periodicals and pamphlets on the subject of schools, school systems and education generally, and perform such other acts as they may deem expedient, and make report of their doings to the Institute at its annual meeting.

ARTICLE 5. A meeting of the Institute for the choice of officers shall be held annually, in the city of Providence, in the month of January, at such time and place as the executive committee may designate, in a notice published in one or more of the city papers ; and meetings may be held at such other times and places as the executive committee may appoint.

ARTICLE 6. This Constitution may be altered at any annual meeting by a majority of the members present, and any regulations not inconsistent with its provisions may be adopted at any meeting.

X. EDUCATIONAL ASSOCIATIONS.

PREFACE.

THE history of associations for the establishment of schools and the advancement of education in this country—or the assent of several persons to a common method of accomplishing a specific educational purpose—begins with a subscription commenced by the Chaplain of the Royal James, (Rev. M. Copeland,) on her arrival from the East Indies, in 1621, towards the erection of a *Free School*—or an Endowed Grammar School, in Charles City, Virginia. The first school in New England was probably started in the same way—that is, by a subscription by “the richer inhabitants of the town of Boston on the 22d of August, 1636,” “towards the maintenance of a free schoolmaster for the youth with us.” The *free schoole* in Roxburie,” designated by Cotton Mather as the *Schola illustris*, was established by an agreement or association of a portion of the inhabitants who joined in an act or agreement binding the subscribers and their estates to the extent of their subscription, “to erect a free schoole” “for the education of their children in Literature to fit them for the publicke service both in Church and Commonwealthe in succeeding ages.” Nearly all that class of schools now known as Grammar Schools, Academies and Seminaries, except the Town, or Public High Schools, were originally established on the principle of association. So was it with nearly every College in the country. The ten persons selected by the synod of the churches in Connecticut in 1698 from the principal ministers of the Colony to found, erect, and govern a “School of the Church,” met and formed themselves into a society and agreed to found a college in the Colony; and for this purpose each of the Trustees at a subsequent meeting brought a number of books and presented them to the association, using words to this effect, as he laid them on the table: “I give these books for founding a college in Connecticut,” “wherein,” as afterwards declared, “youth shall be instructed in all parts of learning to qualify them for public employment in church and civil state.”

Although the Common School generally was established by act of legislation—as in Connecticut and Massachusetts—to exclude

from every family that "barbarism as would allow in its midst a single child unable to read the Holy Word of God and the good laws of the Colony," those of Philadelphia and New York originated in voluntary associations of benevolent and patriotic individuals.

Nearly all professional schools for law, theology, and medicine, and every institution intended to provide for the exceptional classes—such as orphans, infants, juvenile offenders, deaf mutes, blind, imbecile children, or to introduce new methods, such as the monitorial, manual labor, and infant—originated in societies.

All of those educational enterprises, in which the religious element constitutes the leading object, such as the Sunday-School, the publication and dissemination of the Bible and religious books, have been carried on through voluntary associations.

The earliest movement for the advancement of education generally in the United States, through an association, originated in Boston in 1826, but did not take shape till some years later, although the object was partially attained through the agency of Lyceums, which were established for other purposes as well, in the same year. In the lectures and other exercises of the Lyceum, wherever established, the condition and improvement of schools—the school-house, studies, books, apparatus, methods of instruction and discipline, the professional training of teachers, and the whole field of school legislation and administration, were fully and widely discussed.

Out of the popular agitation already begun, but fostered by the Lyceum movement, originated, about the year 1830, many special school conventions and associations for the advancement of education, especially in the public schools. Most of these associations, having accomplished their purposes as a sort of scaffolding for the building up of a better public opinion, and of a better system of school legislation, have given way to new organizations founded on the same principle of the assent of many individuals to a common method of accomplishing special purposes. The history and condition of these various associations, both those which have accomplished their purpose, and those which are still in operation, having for their field the Nation or the State, will be herein briefly set forth.

To understand the condition of the schools, and of the popular estimate of education as it was about the beginning of this century, we introduce a series of articles which appeared in the *Journal of Education*, composed mainly of letters descriptive of the schools as they were sixty and seventy years ago, by individuals who were pupils and teachers in the same.

PROPOSALS FOR FORMING A SOCIETY OF EDUCATION IN 1826.

The following Proposals was addressed to many teachers and known friends of education for their consideration, Sept., 1826:—

THE establishment of a society for any of the numerous objects connected with human improvement, is a thing of so common occurrence, as hardly to call for apology or explanation. In the present state of the public mind with regard to the subject of education, in particular, prefatory discussion seems unnecessary. The conviction appears to be universal that the happiness of individuals and of society is dependent, to a great extent, on the information, the discipline, and the habits, which are imparted by physical, intellectual, and moral exercise, regulated by good instruction. Some of the considerations, however, which seem most strongly to urge the measure now proposed, are entitled to particular attention.

The progress of improvement in education has not hitherto been duly aided by *combined and concentrated effort*,—by mutual understanding and efficient co-operation. That this advantage is highly desirable needs not to be inculcated on any one who has attentively observed the operations or the progress of the religious and philanthropic institutions of the day. The piety and benevolence of separate individuals might have done much for the happiness of man, but could never have achieved the magnificent result of translating the Scriptures into the languages of so many nations, nor that of turning a whole people from the rites of idolatry, or the habits of barbarism. It is matter of regret that, whilst the zeal of thousands has been made to meet on so many other objects, and push them onward to brilliant success, no such union has hitherto been attempted in the great cause of education. Here and there we have had an excellent school-book, an eminent instructor, a vigilant and faithful school-committee, a distinguished institution, a memorable endowment, or a local arrangement, which has justly immortalized its projectors. But there has not been any attempt made to offer, to the country at large, the benefits likely to result from an association of men eminent and active in literature, in science, and in public life; from an extensive interchange of views on the part of instructors or from an enlightened and harmonious concurrence in a uniform set of books fitted to become the vehicles of instruction, and rendered as perfect as the united judgment of literary men and of teachers could make them. School-committees have labored industriously, indeed, but from the want of a proper channel of communication, they have not acted in concert. Endowments have, in not a few instances, been conferred with so little judgment as to become disadvantageous rather than beneficial; and town and State policy in regard to education has, though admirable in its temporary results and its restricted sphere, been so cramped in respect to time and place, as to lose much of its proper influence.

A society such as is proposed would, in all probability, do away these and similar impediments to the career of improvement, and prove a powerful engine in accelerating the intellectual progress and elevating the character of the nation.

1. As *the earliest stages of education* require, from their prospective importance as well as their natural place, the peculiar attention of parents and teachers, the proposed society would direct its attention to every thing which might seem likely to aid parents in the domestic education of their offspring, or in the establishment of schools for infants.

2. Another object of the society would be to aid *instructors* in the discharge of their duties. So much has recently been written and so well on this subject, that it seems to require but little discussion here. Let it suffice to say, that every effort would be made which might seem likely to be of service to teachers, whether by the training of youth with reference to the business of teaching, by instituting lectures on the various branches of education, by suggesting methods of teaching these branches, by using, in a word, every means of imparting a facility in communicating knowledge and in directing the youthful mind, so as to furnish instructors with the best attainable knowledge and the best possible qualifications in the branches which they might wish to teach.

A school or college for teachers, though an excellent and a practicable object, can not be put into operation in a day, nor by any single act of legislation, nor by the solitary efforts of any individual. If there is a season for every thing under the sun, there must be, in this undertaking, an incipient stage of comparative feebleness and doubt and experiment and hazard, which, however, will no doubt give place to a day of ample success, in an unparalleled amount of private and public good. The only questions are, *Where* shall this undertaking be commenced?—*when*?—and by *whom*? Should a simultaneous movement to effect this great object be made, as in all probability it will in New York, in Connecticut, and in Massachusetts, and perhaps in other States, such a society as is now

proposed might contribute valuable services to the measures which might be adopted for this purpose.

The society ought not to restrict its attention to instructors of any order, but should endeavor to embrace the services and the duties of all, from the lowest to the highest in the scale of advancement; and the mutual understanding and the universal co-operation thus secured in the business of instruction would probably be one of the greatest advantages resulting from this society.

3. An object of vast importance in the formation of a society such as is contemplated would be the collecting of a *library of useful works on education*. The members of the society would, by means of such assistance, proceed more intelligently and efficiently in the prosecution of their views; and if the library were made to comprise copies of every accessible school-book, American or European, it would furnish its readers with the means of valuable and extensive improvement in their respective branches of instruction. The advantage thus afforded would be equally serviceable to such of the society as might be employed in aiding teachers by lectures or otherwise, and to those teachers themselves.

4. A subject closely connected with the preceding would be *the improvement of school-books*. It is a thing not merely convenient or advantageous to education, and to the character of our national literature, that there should be a uniformity in school-books throughout the country; this subject possesses a political value, which reaches even to the union by which we are constituted a powerful and independent nation. Local peculiarities of sentiment and undue attachments to local custom are the results, in a great measure, of education. We do not surely lay ourselves open to the imputation of being sanguine when we venture say, that a national uniformity in plans of instruction and in school-books would furnish a bond of common sentiment and feeling stronger than any that could be produced by any other means, in the season of early life. The precise extent to which this desirable improvement might be carried would, of course, depend, in some degree, on the feelings of individuals no less than on those of any society. But every rational and proper effort would no doubt be made to render such arrangement agreeable to the views and wishes of instructors and of the authors of school-books throughout the United States.

5. In the present early stage of this business it is thought better not to multiply or extend observations, but to leave details for a more matured stage of procedure. A useful guide to *particular regulations* is accessible in Count de Lasteyrie's *Nouveau Systeme d'Education*. See that pamphlet, or the translation of part of it, given in the appendix to Dr. Griscom's Mutual Instruction. Another useful guide will be found in Jullien's *Esquisse d'un Ouvrage sur Education Comparee*.


6. The vastly desirable benefit of complete and harmonious co-operation would require that several, if not all, of the large towns and cities in the United States should contain a *central committee* for managing the concerns of such a society; as *auxiliaries* to which and modeled on the same plan, professional men and teachers, as well as other persons interested in education, and capable of promoting it, might associate themselves in every town or convenient vicinity. A corresponding member from every such association, and one or more from a central committee, might, with great ease and dispatch, conduct all the business of the proposed society in any one State; and a similar arrangement on the great scale might complete the organization of the society for the United States. The whole affair offers nothing either complicated or troublesome; all that is wanted is a sufficiency of zeal and enterprise to commence and of perseverance to sustain the undertaking.

For an idea of the good likely to be accomplished by a society for the improvement of education, reference may be made to the proceedings of the *French Society of Education*, or to the present condition of the primary schools of Holland, which have attained to that condition through the efforts of a society duly impressed with the value of education, and vigorously devoting themselves to its improvement. The result of that society's labors has been nothing short of an intellectual and moral regeneration in the sphere of its action, accomplished, too, in the brief space of thirty years.

Mention might here be made also of the British and Foreign School Society which has done so much for the dissemination of improved instruction at home and abroad; and which has rendered the benefits of education as accessible to the people of England, as they have been or are to those of Scotland, of New England, or of Holland. We might mention, too, the Infant School Society as an institution which is dispensing the blessings of early instruction and moral refinement among the youngest class of British population.

The above moderate Proposals should be read in connection with the Contents and Index of the *History of Educational Associations (National and State) in the United States in 1864*. 848 pages.

NATIONAL EDUCATIONAL ASSOCIATIONS; An Account of Conventions and Societies for the Improvement of Schools and the Promotion of Education in the United States, with Biographical Sketches of their Founders and Presidents, and an Introduction on Schools and Teachers prior to 1800. Republished from Barnard's American Journal of Education. 400 pages. Price, \$2.50, in paper cover, and without Portraits.

 *Illustrated Edition*, with at least 25 Portraits, in *Cloth Binding*, \$3.50.

CONTENTS.

	Page.
NATIONAL AND STATE EDUCATIONAL ASSOCIATIONS,	1-864
INTRODUCTION,	1-138
SCHOOLS AND TEACHERS IN THE UNITED STATES PRIOR TO 1800,	7
EDUCATIONAL BIOGRAPHY,	11
I. The Original Free School of New England,	13
Mastership of Ezekiel Cheever—1638-1708,	13
The Free School of New Haven, Ipswich, and Boston,	15
First Free School in Virginia, in 1621,	16
First Free School in Roxbury and Salem,	17
School Days of Rev. John Barnard—1689,	23
School Days of Rev. Benjamin Coleman, D. D.—1678,	26
Coote's English Schoolmaster,	27
Cheever's Latin Accidence,	28
Rev. Cotton Mather, D. D.—Discourse on Cheever,	33
Note. The Town Free School of Dorchester,	39
School Regulations, School-Books, and School-Houses as they were,	40
The Royal Primer—New England Primer—The Horn-Book—The Child's Guide,	41
View of School-Houses and their Apparatus,	52
The Schools of Boston from 1783 to 1800, from a Memoir of Caleb Bingham,	53
Condition of Public Schools in Boston in 1784,	55
Institution of the Double-Headed System,	56
Prohibition of Private Schools,	58
First Appointment of a School Committee in 1792,	59
School-Books—Head-masters—Course of Study,	61
School-Books of Noah Webster and Caleb Bingham,	65
II. Schools and Academies, prior to 1800, described mainly by their Pupils and Teachers, ...	69
1. Letter from Noah Webster, LL. D.,	69
Letter from Heman Humphrey, D. D.,	71
Letter from Hon. Joseph Buckingham,	75
Letter from Eliphalet Nott, D.D.,	81
Recollections of the District-School, by Peter Parley, (S. G. Goodrich,)	82
Homespun Era of Common Schools, by Horace Bushnell, D. D.,	90
The New England Country School in 1794—a Poem,	91
2. Letter from Hon. Salem Town, LL. D.,	93
Letter from Hon. Josiah Quincy, Senior, LL. D.,	97
Letter from William Darlington, M. D.,	99
The Schools of Philadelphia, by "Lang Syne,"	102
The Schools of Boston in 1780, from the Memoranda of a Pupil,	103
The Schools of Boston in 1800, by Edward Everett,	105
An Old Field School and Academy in Virginia in 1801,	107
Condition of Schools in Delaware, by Robert Coram,	108
3. Condition of Schools in North Carolina—Experience of C. Caldwell, M. D.,	109
Popular Ignorance and Free Schools in South Carolina, by Gen. Marion,	119
Barring-Out—a Georgia School Scene,	121
4. Letter from Jeremiah Day, D. D., LL. D.,	126
Letter from Hon. Willard Hall,	127
School-house and School of my Boyhood, by A. Bronson Alcott,	130
School Reminiscence, by Henry Ward Beecher,	135
5. Reminiscences of Female Education prior to 1800, by "Senex,"	137

	Page.
I. NATIONAL ASSOCIATIONS FOR EDUCATIONAL PURPOSES,	139-400
INTRODUCTION,.....	139
PROPOSALS TO FORM A SOCIETY OF EDUCATION IN 1826,.....	139
1. AMERICAN LYCEUM,	141
The American Lyceum—Constitution—Proceedings of Annual Meetings,.....	143
The Early Lyceum Movement of Josiah Holbrook,.....	143
Biography of Josiah Holbrook,.....	164
2. THE WESTERN LITERARY INSTITUTE AND COLLEGE OF TEACHERS,.....	165
List of Lectures, Essays, and Reports,.....	175
Biographical Notices of the President and Active Members,.....	177
3. AMERICAN INSTITUTE OF INSTRUCTION,.....	181
Lyceum and Educational Convention in Boston, March 15, 1830,.....	182
Constitution, Officers, and First Session of American Institute,.....	188
Contents of Printed Volumes of Lectures from 1830 to 1865,.....	191
Index to Subject of Lecture and Name of Lecturer, and Topics Discussed,.....	195
Places of Meeting—Presidents,.....	210
Biographical Sketches of Presidents,.....	211
4. NATIONAL LITERARY AND SCIENTIFIC CONVENTION AND INSTITUTE,.....	221
5. THE AMERICAN SCHOOL SOCIETY,	225
Biographical Sketch of S. R. Hall—William A. Alcott—William C. Woodbridge,....	230
6. SOCIETY FOR PROMOTING MANUAL LABOR IN LITERARY INSTITUTIONS,.....	231
Military Drill, German System of Gymnastics, Fellenberg, and Manual Labor Schools,.	231
Manual Labor Society—Report of Mr. Weld in 1833,.....	234
The New Gymnastics of Dr. Lewis—Military Drill Revived,.....	236
7. AMERICAN ASSOCIATION FOR THE SUPPLY OF TEACHERS,.....	237
8. AMERICAN SOCIETY FOR THE DIFFUSION OF USEFUL KNOWLEDGE,.....	239
Biographical Sketch of Gorham D. Abbott,.....	246
9. AMERICAN COMMON SCHOOL SOCIETY,.....	247
The American Common School Assistant,.....	247
Educational Labors of J. Orville Taylor,.....	248
James Wadsworth's Labors in behalf of Common Schools,.....	249
10. WESTERN COLLEGE SOCIETY,.....	261
Origin and Pecuniary Results,.....	261
List of Permanent Documents,.....	268
Biographical Sketch of Rev. Theron Baldwin, D. D.,.....	269
11. BOARD OF NATIONAL POPULAR EDUCATION,.....	271
Biographical Sketch of William Slade,.....	274
12. AMERICAN WOMAN'S EDUCATIONAL ASSOCIATION,.....	273
Biographical Sketch of Miss Catherine E. Beecher,.....	274
13. NORTH-WESTERN EDUCATIONAL SOCIETY,.....	276
14. AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF EDUCATION,.....	277
Biographical Sketches of the Presidents,.....	301
15. AMERICAN NORMAL SCHOOL ASSOCIATION,.....	317
16. ASSOCIATION OF COLLEGE DELEGATES,.....	321
17. NATIONAL TEACHERS' ASSOCIATION,....	323
Biographical Sketches of the Presidents,.....	331
18. ASSOCIATION OF CITY AND STATE SUPERINTENDENTS,.....	385
19. SOCIAL SCIENCE ASSOCIATION,.....	387
20. NATIONAL FREEDMAN'S EDUCATIONAL AID SOCIETY.....	391
21. COOPER UNION—Education Section of Society of Associates,.....	395

NOTE.

The ILLUSTRATED EDITION will contrain Portraits of Josiah Holbrook; C. E. Stowe—Joseph Ray; F. Wayland—J. G. Carter—G. B. Emerson—T. Sherwin—J. Kingsbury—J. D. Philbrick—D. B. Hagar—A. P. Stone—C. Northend—B. G. Northrop; S. R. Hall—W. A. Alcott—W. C. Woodbridge; G. D. Abbott; J. Wadsworth; T. Baldwin; H. Mann—A. Potter—H. Barnard—H. P. Tappan—F. A. P. Barnard; W. Russell—Z. Richards—A. J. Rickoff—J. W. Bulkley—W. H. Wells—S. S. Greene—J. P. Wickersham.

IV. PUBLIC INSTRUCTION IN HOLLAND.

BY ALPHONS LEROY.†

Professor in University at Liege.

I. ELEMENTARY INSTRUCTION.

A. LEGISLATION.

THROUGH the influence of the “*Gesellschaft Tot nut van 't algemeen*,” (*Society for the promotion of public interests*),* which was organized in 1784, mainly through the efforts of John Nieuvenhuysen, a Memnonite minister of North Holland, the government was induced, in the first year of the nineteenth century, to enter upon the work of popular education. The celebrated orientalist Van der Palm, who in 1799, under the Batavian Republic, had the management of public instruction, and was afterward member of the Ministry of the Interior, with similar duties, effected the passage, in 1801 and 1803, of two laws, both of which breathed the spirit of the period in which they were issued. In 1805, a change in the government occurred, and Van der Palm withdrew from public life.

The president of the Republic, Pensionary (Roadpensionaris,) Schimmelpenninck, abolished the Ministry of the Interior, and appointed instead a Secretary of State, to whom he assigned the care of public instruction. To assist in the duties of this department of public schools, Van der Ende, was made Assistant Secretary, who had occupied a similar position in 1801, and now finished and perfected the work commenced by Van der Palm. He remained at the head of public schools until 1833. To him is due the elaboration of the law which was laid before the Chamber Deputies on the 19th November, 1805, adopted on the 25th February, 1806, and on the 3d April, approved by the Pensionary, together with the general regulations which had been laid down under authority from the government, and which were thus made part of the law itself. “This public school law,” says Cousin, “was based upon such just and wise views, it showed so beautiful a consistency throughout, and such accordance with the spirit of the people, and it was found

* “The Society for the Public Good,” as it is generally designated, commenced its labors in behalf of popular education, by preparing and circulating among the common people useful elementary books, not only on religious and moral subjects, but also on matters of every day life. Its second object was to establish model schools, with libraries for the use of work people who had left school, in all localities where it had subscribers. Its third object was to conduct inquiries into the true principles of the physical and moral education of children, and into school method. Under its lead the magistrates of Amsterdam in 1797, and of several other large towns undertook the work of school improvement. In 1809, the society numbered 7,000 members, having departments, or branches in every province and town, and has continued to exert an important influence on popular education to the present time.

† From Schmidt’ “*Encyklopädie Pädagogische*,” with modifications and additions.

to adapt itself so readily, through the universality of its principles, to the most diverse wants of the several provinces, that it has remained in force, and without any important alterations, up to the present date, and through three great popular revolutions. When the government in 1829, in its partiality to the liberals of Belgium, proposed a new, law making deplorable changes in the law of 1806, the chambers united in opposition to it, and the government was obliged to withdraw its proposition."

The law of 1806, has continued in force for half a century, and every one admits that it has operated admirably. Yet in the provisions of the 22d and 23d articles of the regulations, (Supplement A.,) lay hid the elements of a storm, which is even yet scarcely allayed, and which has been the cause, as we just intimated, of new legislation. The subject is of such importance that we present a formal explanation.

"ART. 22, of Ordinance A. Instruction shall be directed as well to the development of the mental faculties as to the acquisition of useful information, and also to the training of the pupils in the practice of all the social and Christian virtues.

"ART. 23.—Provision shall be made that the pupils do not remain without instruction in the doctrines of that religious faith to which they belong. The teacher however shall not have the charge of this branch of instruction."

These articles asserted the principle of secular and mixed schools, and the ministers of the different creeds had at first no thought of contesting it; they readily promised the government their coöperation, and even the Catholics were disposed to acquiesce, if a conclusion may be drawn from the declaration of the Archbishop of Friesland. "It is necessary, in my opinion, to the preservation of harmony, friendship, and affection among the different religious societies, that instruction in the doctrines of the different churches should not be communicated by the teachers. In order to effect the object, so desirable, which the government has in view, and for which it demands our earnest coöperation, the work must be commenced in childhood, and although as our church requires of us the doctrinal instruction of its children, these enactments of a government that takes so great interest in the well-being of the young, will serve but to quicken our zeal in the performance of our duties."

The relation at that time existing in Holland, between the churches and schools, was entirely different from what it was in Prussia. Said Van der Ende to M. Cousin; "The public schools shall be by all means Christian schools, but neither Protestant nor Catholic; they shall be limited to no special form of worship, and shall teach no exclusive doctrine. There shall be no special Catholic and no special Protestant schools! A public school is for the people, wholly and completely. Moreover, tolerance is by no means indifference. You are in Holland, where a Christian spirit is widely disseminated, and where for centuries past, great toleration has prevailed between the different churches." "Even here in the Teachers' Seminary," added M. Prinsen, of Haarlem, "there is no special instruction in morals. I give instruction neither in morals nor in what is called natural religion. It should rather be called metaphysics. But by all the

teachers a religious and moral feeling is, at every opportunity, awakened, encouraged, and sustained. All the instructors teach morality, but no one gives special instruction therein. We receive here Protestants, Catholics, and Jews, but the latter are present with the classes in biblical history, (which is made a regular subject of study,) in the Old Testament only. These Jewish pupils become afterward teachers in the special schools supported by the Jews for their own children." M. Cousin was greatly surprised; he approved of the German system, yet was obliged to confess that there existed here no religious animosity between the children of the different churches, and that nevertheless moral and religious men were the result of these secular schools. Did the phlegmatic temperament of the Dutch contribute to this result? Could time alone develop the dangerous tendencies of the system? However this may be, since 1848, a diversity of feeling has existed, and sharply defined parties have arisen in mutual opposition.

But aside from that, the alterations made in the constitution during that year, would have necessitated a revision of the school laws. The fourth section of (ART. 194,) of the new constitution was thus worded:

"Instruction (*het geven van onderwig's*) shall be free, under the absolute control of government, and, so far as the public, and intermediate schools are concerned, under the condition of guarantees of capacity, and good morals, to be given by the teacher, and to be fixed by law."

Attention had also been directed to the insufficiency of the teachers' salaries, to the vagueness of the provisions of the law regulating the proceedings of the parishes, and lastly, to the want of uniformity in the governmental superintendence. This was also evidently a favorable opportunity for those who believed there were yet more important grievances to be redressed. Through the influence of the University at Utrecht, which had become the center of Calvinistic orthodoxy, an ultra-protestant party had been formed,—conservative, inasmuch as it desired the restoration of the form of government of 1789, and weak in numbers, but active and energetic. It had taken its name from Groen van Prinsterer, a prominent preacher and writer, who, with his adherents, had noticed with some misgiving, how the Catholics in every place where they had any influence, were strictly carrying into operation the provisions of the law of 1806, respecting religious instruction. The Catholics, enjoying perfect equality of rights, excluded from the instruction of the schools every thing of a doctrinal character, and even set the Bible aside. The Groenists determined to check the anticipated advances of the Romish church, by openly attacking the principle of mixed schools, which they represented to be nurseries of atheism and hot-beds of irreligion and immorality; they demanded, at every cost, sectarian schools, and a positive religious instruction. The majority of the Chambers expressed themselves in favor of the establishment of exclusive schools by private persons, inasmuch as the constitution guaranteed free instruction; but they maintained that the influence of surrounding circumstances, and the Christian sentiment of the entire nation gave a Christian tendency to the

instruction of the schools, and that it must, in fact, be Christian in its character, though the law could not so prescribe it. In the ranks of this strong party were the Catholics, who would banish religious instruction entirely from the schools rather than see given to it a coloring in any degree Protestant,—the liberals, who desired a complete separation of church and state, and the non-conformists of every kind, Memnonites, Lutherans, Jews, and even certain of the orthodox reformed, who upon this subject differed from the zealous adherents of the dominant church. The views of these last, deserve mention, since they accord with measures whose full importance the future only will reveal. We give them in the words of von Laveleye:

“German Theology is famous for its works of criticism upon the historical or mythical portions of the gospels. The most important of the literary productions of all foreign writers, are now translated into the Dutch language, and moreover, every educated man in the Netherlands, is well acquainted with German. This, together with the ready communication of religious information by other means, has caused the rationalistic labors of German science to exert a powerful influence upon the theology of Holland; and so great has this become, that the orthodox clergy are filled with the greatest anxiety, as they see several of the principal pulpits of the land occupied by preachers whose teachings have a more or less decidedly expressed tendency to Socinianism. Certain it is, that the opinion which represents Christ as a being higher than man, but less than God, has gained strength, and at the University of Gröningen has attained a predominant influence. The effect of this tendency, whether it be to unitarianism or rationalism, is to direct attention rather to the morals of Christianity, and its civilizing influences, than to its doctrines and power to save. Christ is looked upon rather as the perfect archetype, in conformity to which, humanity should be fashioned, rather than the Messiah who died upon the cross for the redemption of the elect. Hence it follows, that, in the matter of religious instruction in the schools, doctrinal teaching is willingly left to the priest, while it is considered highly important that the teacher should still be required to give instruction in Christian morals.”

A third opinion was expressed by some moderate men, who, true to the ordinances of 1806, desired to make the culture of the social and Christian virtues the groundwork of instruction, and thus to prove that the religious element was not excluded from the schools. But as the ministry could not consent to this, to avoid strengthening the Groenists, they united with the liberals.

Several drafts of laws were successively presented to the chambers, without effecting a result. Four times in the course of seven years was the ministry overthrown, and meanwhile the Groenist minority was acting upon the popular mind by means of pamphlets, newspaper articles, and the circulation of petitions. They finally convinced the king that the nation was opposed to every system of school law in which the public schools were made atheistic; and this accusation too was unjust to their opponents, for a complete severance of church and state, by no means infers systematic opposition to the clergy; on the contrary, though the bill of the minister Van Reenen, which had been opposed mainly by the Groenists, went so far as even to make no mention of Christianity, yet it was drawn up, on the whole, in a sincerely Christian spirit, and was far from being indifferent to the subject. Nevertheless, the minority pre-

vailed with the king, so far that he promised his sanction to their design, and now, sure of success, they greeted in triumph the accession to the ministry, of Van der Bruggen, and Van Rappard, who were supporters of their system.

But a more intimate acquaintance with the affairs of the State, quickly moderated the zeal of the new ministers. They soon perceived that the principle of mixed schools, as it had been established by the law of 1806, was still too firmly incorporated with the habits of the people to permit the thought of its being uprooted, and they therefore now brought forward a bill, eclectic in its provisions, which neither pleased the Groenists, nor conciliated the liberals. The debate was opened on the 29th June, in the lower chamber; a debate that will form one of the most interesting portions of the religious history of Holland. We can here give only the result. What we have already said respecting the position of parties, is sufficient to indicate the different opinions that were advanced in the discussion. It may be remarked, by the way, as a surprising fact, that the language of the Catholic upon the subject, was almost always directly opposed to the views of their co-religionists, in non-protestant countries. Article 22, of the bill, (Article 23, of the law,) was adopted, the last section excepted, by a vote of 45 to 20; the conservatives of the liberal party had gained the victory. This article reads thus:

"Public instruction, while it communicates the knowledge that is needed, shall at the same time develop the understanding of the scholars, and train them to the practice of every Christian and social virtue."

"The teacher shall refrain from teaching, doing, or permitting any thing derogatory to the respect that is due the religious convictions of the non-conformists."

"Instruction in religion is left to the different sects. The use of the school buildings may be granted for this purpose, to accommodate the children that attend them, at hours not appropriated to other classes."

The section that was rejected, by a vote of 60 to 2, provided for separate instruction, (facultative splitsing,) which the majority had never at all desired. It was thus expressed:

"Wherever children do not attend school on account of the religious opinions of their parents, and it is found after careful inquiry that their complaints can not otherwise be removed, a separate school may be established, if it be possible, which shall receive State support, so far as is necessary. This support shall be provided by law."

In the upper chamber the discussion was more calm; opposition was withdrawn. The law was published on 13th August, 1857, to go into operation at the commencement of the following year.

The legislature of 1857, was also occupied with various other important subjects. For several years previous, a decrease in the number of scholars had been observed, which must naturally excite attention in a country where almost all the children frequent the public schools, while elsewhere it might easily be accounted for by the supposition that the children had left the public schools in order to enter the private, which was a daily occurrence. The evidence that freedom of instruction was degenerating

into liberty to remain in ignorance, became a source of anxiety, and some of the delegates endeavored on this account to reconcile compulsory attendance at school with the principles affirmed in the Constitution. Their motto was; "instruction compulsory and gratuitous;" such is the feeling of some Belgian politicians also, who in view of similar difficulties, have been endeavoring since 1857, to effect in their country a similar solution. But the Dutch delegates did not effect their object. The 33d Article of the law merely says:

"The parish authorities shall use all possible means to induce parents, who are poor and receiving support, to send their children to school."

Several of the large cities, Rotterdam, among others, have made their support of the parents conditional upon the school-attendance of the children. Other subjects that were discussed at the same time, we will mention as occasion offers, in connection with the brief statement, which we now give, of the law of 1857.

a. *Classification of Schools.*

The common schools are either public or private, (Article 3.) The first class include those schools that are sustained, by the parishes, provinces, and the State, severally, or conjointly, (*gezamenlijk*;) the private schools are entitled to assistance from the provinces and parishes, in case of necessity, but in that case, must be open to children of all religions.

The number of schools in each parish, (Article 6,) must correspond to the wants and number of the population. The parish determines how many are *necessary*, (Article 17,) but the provincial authorities (*gedeputeerde staten*,) and the government have the right to increase the number if they consider it expedient. These provisions secure, it is evident, greater certainty of instruction than does the Belgian law, but they are less precise in reference to the right of poor children to attend the schools free of expense, (Article 33.)

The warm interest felt by the legislature in the cause of instruction is shown in (Article 18,) which requires that whenever a teacher has more than 70 scholars, he shall have the assistance of an "aspirant" (*Kweekeling*, pupil;) this title is given to young men that have not yet received certificates of qualification, or, in other words, have not yet passed the official examination, but who are authorized, until they attain the required age, (eighteen years for an assistant's, and twenty-three for a teacher's diploma, Article 43,) to perform certain duties as "beginners,"—called also in Belgium "secondants." If the number of scholars exceed 100, the teacher is allowed an "assistant," and an additional aspirant if it exceeds 150; with fifty more scholars, another teacher is employed, and with a hundred more, a second assistant.

The course of study is divided into the "ordinary" and the "advanced" course. Instruction in the latter, must be given wherever possible, and where its introduction is judged to be expedient, (Article 16.) The ordinary course must embrace reading, writing, arithmetic, the elements of

geometry, the Dutch language, geography, history, natural philosophy, and vocal music; while the higher course include lectures upon the elements of modern languages, the elementary mathematics, the primary principles of agriculture, gymnastics, the art of design, and for females, the usual domestic accomplishments.

The teacher is appointed (Article 22,) by the parish council, from among the candidates, three to six in number, that have been selected, after examination, by the mayors and justices, with the approval of the district superintendent.

b. Local Authorities.

The control of the schools was so skillfully and wisely arranged, under the law of 1806, that M. Cousin, in the warmth of his admiration for this "bold action," which had never suggested itself to the mind of the French legislators, could, without exaggeration, exclaim; "this is the right method of regulating common school instruction, and in popular education, is the point, that is, in my opinion, of the most vital importance, its more or less skillfully devised organization." The new law has retained the local committees, (Article 53,) there being both district and provincial superintendents, who are appointed for six years, and meet annually. Complaint might perhaps be made of the want of a general superintendent, on the ground that, on account of the continual changes to which the ministry is subject, none but a permanent officer of this kind can secure uniformity in the system of school regulations, and in their administration. The system of 1806, had in fact such a keystone, to be recognized in the established hierarchical organization of the school authorities, but it is scarcely necessary to say, that a superintendence of the schools by the clergy is now wholly out of the question in Holland.

c. Teachers.

The law of 1857, neither authorizes teachers' associations, nor directs a uniform plan of operation for the teachers' seminaries. But through the influence of the superintendents, who have generally manifested a zeal worthy of all praise, numerous teachers' societies have been formed, (in 1858, numbering 249, with 3,544 members,) with the two-fold object of affording to teachers opportunities for advanced instruction, and of disseminating the most approved methods of teaching. In the schools for the poor, pupils are selected from among the most proficient, to be trained for the office of teacher, and to these, especial attention is given. In order to obtain a certificate of proficiency, there is required a knowledge, (Article 44, 45, 46,) not only of the subjects embraced in the course of ordinary school instruction, more extended than usual, and with a more rational and thorough understanding of them, but also of pedagogy and methodics; it is also required, that the teacher, whether male, or female, be able to express himself with ease, and in a polished manner, both orally, and in writing. Nearly all the teachers' societies have of late, vied with each other in their endeavors to comply creditably with the

new requirements of the law. In several places these poor pupil-teachers supply the free schools with aspirants as assistant teachers. The parishes generally contribute to their support, and very frequently the provincial authorities also, as in Utrecht, and Amersfort. But the Royal Teachers' Seminary at Haarlem, is more especially worthy of mention, where pupils are received from all parts of the kingdom upon the recommendation of the superintendents, and formally admitted after a three months' trial, upon the satisfactory report of the director. This institution was established under a royal decree of May 31, 1816, and placed under the control of M. Prinsen, a normal instructor of great talent. Ten full scholarships of 250 florins, and fourteen half scholarships of 125 florins yearly, during the entire four years' course of study were founded for such pupils as obtained a diploma of the first degree. This school at Haarlem, has accommodations for day scholars only, (*externat*,) but otherwise is similar in its arrangement to the Prussian seminaries. The entire expense to the State, for its forty pupils, is 10,000 florins annually. Not only is theoretical instruction given, but actual practice in teaching; the pupils being employed in the schools of the city, for the purpose of accustoming them to their duties as teachers. The discipline is very simple, embracing only a few special regulations, and has been found all that could be desired. Perhaps the natural temperament of the Dutch will sufficiently account for this fact also. In connection with M. Prinsen, others may be mentioned who have aided in securing the success of this establishment,—among them, Mll. Van Dapperen, once a pupil of Pestalozzi, Polman, and B. Schreuder, all extensively known through their school-books, and the influence which they have had in the advancement of method among the public schools. But in addition to these schools, a system of normal instruction has now been perfected by a recent decree, which provides for three large normal seminaries, and twenty-two schools of practice, the latter, receiving an annual appropriation of 3,000 florins. The society "*Tot nut van 'talgemeen*," has also afforded great assistance to teachers and aspirants, by the publication of a good selection of manuals and abridgments (elementary text-books,) upon general and special subjects. Judging from their catalogue, they attach great importance to the pedagogical works of Germany.

d. *Encouragement of Teachers.*

Of the means that are made use of for the encouragement of teachers, we will allude only to the presentation of gifts, and the annual distribution of silver medals, to the most zealous.

B. STATISTICS.

According to M. Blaupot Ten Cate, the number of children that in 1855, remained without instruction, must be put at 38,000, while in 1852, there were only 21,000, or 107 to 1,000 inhabitants. But the fact that the school attendance has for several years diminished, is nevertheless certain, and must be a source of surprise to those who are acquainted with the

progress that has been made since 1806. The last report of M. van Tets, minister of the interior, accounts for this falling off by the simultaneous advance in popularity of the private schools after 1848. Since the public schools have again become to be decidedly preferred, more value seems to be placed upon the education of children, and a happy change has commenced. An increase of upward of one per cent. (sic,) in the attendance is shown by the reports of 1857, above those of 1850.

a. *Number of Schools.*

The number of common schools in the kingdom, (excepting the colonies and the archduchy of Luxemburg,) was 3,422, in 1857; among which there were 2,478 public schools, 278 private schools of the first class, and 666 of the second. The following table embraces all the information that will be desired. The total population of the kingdom on January 1st, 1857, was 3,298,317.

PROVINCES.	Public Schools.	Private Schools.		Total No. of Schools.	Number of Scholars.	Free Scholars.	Per cent. of Free Schools.
		I. Class.	II. Class.				
North Brabant,	298	27	100	425	49,460	14,744	29.8
Gelderland, . . .	337	44	61	442	54,094	17,454	32.3
South Holland,	259	78	147	484	67,540	31,267	46.3
North Holland,	294	42	174	510	57,575	27,963	48.6
Zealand,	137	4	19	160	19,253	6,269	32.6
Utrecht,	81	24	54	159	17,319	7,227	41.7
Friesland,	358	3	9	370	38,978	13,360	31.7
Gröningen, . . .	207	20	28	255	31,209	10,840	31.7
Over Yssel, . . .	210	16	19	245	23,025	8,587	26.8
Drenthe,	135	7	4	146	14,008	2,636*	18.8
Limburg,	162	13	51	226	24,868	6,715	27.0
Total,	2,478	278	666	3,422	406,329	146,062	36.0

This total of 406,329 scholars, who were in attendance on January 15, 1857, was composed of 228,353 boys, and 177,976 girls. On the 15th July, of the same year, (the summer term,) the number had diminished to 317,618; of which, 158,721 were boys, and 158,897 were girls. These numbers include those who attended the evening schools, (24,868 on 15th January; 18,070 boys, and 6,798 girls,) as well as those who only attended the evening lectures, (numbering 27,272 at the same date, of whom 19,749 were boys, and 7,523 were girls.)

The ratio of the number of scholars to the whole population, is, in winter, about as one to eight; in summer, as one to ten. The first class of private schools, include the "Diakonieschulen," *i. e.*, such as are supported by the revenues of endowment funds, (170;) those that are sustained by the society "Tot nut van 'talgemeen," (17;) and some that belong to private persons, (91.) The schools of the second class, are generally of the latter description.

In this list there are also 784 infant schools, (Warteschulen,) of which,

* Not including 3,336 scholars who pay but half.

the one at Zwolle, has long been well known; 152 schools for review, (Herhalingscholen,)—originated by the society, “Tot nut van ’talgemeen,” and intended for adults, with the design of preventing that frequent relapse into ignorance that is seen in the later years of those who have left the usual schools; 118 Sunday schools; 71 individual schools, for mechanics; 127 public singing schools; 23 schools for gymnastics; and finally, 35 boarding schools, 286 boarding and day schools, (171 for boys, and 115 for girls.)*

b. Number of Teachers.

The number of instructors, in 1857, was 7,391, consisting of 6,480 male teachers, of every kind, and 911 female teachers. The ratio of teachers to scholars was, on the 15th January, as one to fifty-five; on the 15th July, as one to forty-seven. The new law provides liberally, as it should, for the teachers of the schools. Their salary can not be less than 400 florins, (\$160,) nor that of an assistant, less than 200 florins. Some teachers receive more than 1,000 florins per year. The minimum established by law in Belgium, is 200 francs, (\$38,) somewhat less than one-fourth that of Holland! Moreover, the teacher in Holland, has the right of appeal, whenever the district is disinclined to provide him a suitable residence, or pay him the equivalent which is his due; in such case, he can make complaint to the standing provincial committee, who settle the matter conclusively, (Article 19.)

c. Expense of Schools.

It would be difficult to state accurately the cost of the schools, inasmuch as their support is by law (Article 31,) obligatory upon the parishes. The appropriations of the State toward their maintenance amounted, in 1857, to 156,000 florins, (\$62,000.) This, too, was a subject, that gave occasion to a lively discussion in the chambers, in 1857. The requirement certainly imposes a very heavy burden upon the local authorities; still, they can, to a certain extent, evade the law, since they are at liberty, (Article 3, § 3,) to support private schools, and the danger, therefore, is not so great as it, at first glance, appears; besides, (Article 36,) of the law declares that whenever the government is satisfied, by information derived from the standing committee and the provincial authorities, that a parish will be obliged to submit to great sacrifices in order to put its common schools in operation, as it should be done, the State and province shall aid the parish by an appropriation of half the amount necessary. There is, however, something arbitrary in these regulations, though they possess this advantage, that they express definitely the extent of liability, while in Belgium, the parish, and the State, are in mutual opposition; for when even a wealthy parish has col-

* We mention, as examples of these female boarding schools, the one at Voorschoten, near Leyden, under the patronage of Queen Sophie,—the school at Haarlem, and the one long established at Wageningen. It is a peculiarity deserving of note, that nearly all female schools are conducted by female teachers exclusively, and are under the supervision of the royal superintendent.—*Editor.*

lected the additional tax, required by law for the support of its schools, it not unfrequently claims that it has fulfilled all its obligations, and that the State must contribute whatever may be needed beyond, notwithstanding that sound common sense would indicate that the State ought to give its aid only where the resources of the parish were not sufficient. But this common sense decision, does not accord with the wording of the law; and right here, in this difference between the two laws, is clearly shown the difference in the political characteristics of the two people. In Belgium, the parish is as independent as it is possible for a subordinate administration to be; in Holland, the love of order and a desire for a uniform distribution of taxes, serve as a counterpoise to their feeling of independence, and perhaps exert, as time will teach us, too strong an influence. By (Article 32,) of the law of 13th August, 1857, the parish is made responsible for the following expenses;—the salaries of the teachers and assistant teachers; compensation for the services of aspirants; the erection and repairs of school-buildings; the providing school furniture, books, &c.; the heating and lighting the school-buildings; the erection and repairs of the teacher's residence, or an equivalent therefor, in case the parish does not furnish a dwelling-house; a valuable contribution to the pension fund; and the office expenses of the local school committee. In 1857, the State contributed 25,490 florins 25 cents, and the provinces 52,581 florins 17 cents, for the erection and improvement of school-houses in the parishes.

C. MISCELLANEOUS.

a. *Teachers' Certificates.*

A provincial jury, composed of the superintendent of the province, and four district superintendents, meets semi-annually for the examination of aspirants. Foreigners, as well as native born, are allowed this certificate. A testimonial of good moral character, and the certificate of baptism are required to be produced. The subjects on which the candidate passes an examination, are expressed in the certificate. There are four kinds, alike for males and females, viz.: the teacher's certificate, (registration fee, 10 florins;) the assistant teacher's, (5 florins;) the private teacher's certificate of proficiency in different branches, (5 florins;) or in a single branch, (3 florins.) These certificates are valid throughout the kingdom. A private teacher may be allowed to teach in a public school, writing, arithmetic, singing, and female domestic accomplishments.

b. *Course of Instruction.*

The passage of the new law has been too recent to permit us to form an opinion of its actual operation. But as the spirit of the system, as respects the method of instruction, has remained much the same, independent of this or that official ordinance, the testimony of observers like Cousin, Namon de la Sagra, (Journey to Holland, &c., 1839,) Görlitz, and others, still retains, in general, its value. We have also consulted the

ministerial reports. The influence of Pestalozzi has continued predominant. The method of simultaneous instruction has met with more favor in Holland, than the monitorial, "which certainly communicates information," as Van der Ende, says, "but does not educate; but the object of instruction is education." But as respects method, the Hollanders are peculiarly eclectic; their calm temperament, their prudent and considerate character, protect them from any ill-bestowed admiration; they are no friends to a stupid adherence to ancient usages, but they would listen to the teachings of experience, and examine before they decide. Imagine yourself in the position of the child,—adapt your instruction to the gradual development of his faculties, and never lose sight of his destiny as a citizen and a man; teach him not merely to read, but put him in a condition to reason understandingly upon what he has read; these simple principles are sufficient, in the opinion of the Hollanders, to destroy forever the pretensions of the Lancasterian system. They have retained nothing of it, but merely the principle of repetition in some physical branches. But the attempt to avoid one extreme, exposes them to the danger of falling into another. And so the influence of the spirit evinced by the regulations of 1806, might be looked upon as in some degree dangerous, so long as the new system was carried out with all that zeal that is wont to be called forth by newly achieved success. It has been asserted that the teachers, in their desire to make instruction in the public schools such as should improve the understanding, would produce a change in the character of the people, make them peevish and conceited, and dissatisfied with their condition; that the culture and development of the finer feelings would be checked rather than promoted by a method of instruction in which, in direct neglect of all moral training, the intellect and the formalism of logical deductions always receive the chief attention; and finally, it has been apprehended that were the habits thus created to be carried too generally into unrestrained practice, sooner or later discipline would be endangered, and the respect that is due to others would be supplanted by insolence and insubordination. It must be admitted that these apprehensions have many times been verified, though not so frequently as has been represented; and as proof of this, we may point as well to that entire absence of the ideal, that is characteristic of many of the Dutch, as to the ultra-rationalism, and much more to the selfish (individualistic) tendencies that are now becoming prevalent among the young men of the cities. Some may be disposed to ascribe these manifestations to national phlegm, which prefers the culture of the intellect to that of the sensibilities, and the wide-spread spirit of Calvinism; and they may assert, in fine, that this system of teaching is the best adapted to the character of the people.—Granted!—but it is not well to encourage by a partial course of treatment, those propensities, which, indulged too far, become faults. It can not be concealed that many very intelligent men in Holland are becoming daily more strongly of this opinion, and in this we recognize a returning current of feeling that promises much for the future. Nevertheless, the reform of 1806, has merited the

thanks of the people of the Netherlands. An intelligent administration, ever on the watch to arouse a spirit of emulation among its officers; zealous teachers, who in general are more highly educated than those in many other countries; a strict discipline, that is based more upon the moral influence exerted by the teachers than upon any express regulations;—these agencies were sufficient to assure improvement and to accomplish a brilliant result. But above all, we may rest confident in the future; the sound common sense of the nation forms a counterbalance to the radicalism of the new regulations, and on the other hand, the views and experience of other nations have gradually softened the obstinacy of old prejudices, and introduced more of life into the methods of instruction.*

c. Pensions.

Teachers employed in the public schools are allowed a pension on reaching the age of sixty-five years, after forty years of service. The annual deposit in the State treasury, amounts to two per cent. The pension is increased each year, by about one sixtieth of the salary, but can never exceed two-thirds of it.

D. CONCLUDING REMARKS.

The public schools hold generally a higher position than the private schools. The reason of this is simple, and M. Cousin has made it very prominent by a bare statement of facts. "At first the establishment of schools, in which charges were made for instruction, was left to private enterprise, and they were almost everywhere private schools. Inasmuch as the schools for the poor were not only sustained by the public authorities, but also directed and controlled by them, the school regulations were drawn up by men who were well skilled in such business. The rules were strictly followed. The teachers had been trained in good schools, or in teachers' seminaries; the method of teaching was carefully watched; the discipline maintained in the schools were excellent; what was learned, was learned not superficially, but thoroughly. The poor schools, became, therefore, in a short time, in many places, better than the tuition schools under private management, and the unusual result followed, that the children of the middle class were not so well educated as those of the poor. Such a violation of order would in the end have produced an actual disturbance in society; and to avoid this danger, the cities established public tuition schools—a measure that has been productive of the best results, both on account of the emulation which it has excited between the different kinds of schools, and because those families, which are not compelled by poverty, or in their poverty have too much self-respect to send to the poor schools, but still can not afford to pay the tolerably high charges of most of the private schools, find in these public schools the

* The reader will find farther information in the work of M. Görlitz, an impartial and intelligent writer, who is as ready to promote improvements in the educational system of his country as to combat the rank prejudices that have risen up to oppose them. This work contains a list of the best school-books used in Holland, among which is a number prepared from the German.

benefits of instruction at a moderate cost, suited to their circumstances, and not offensive to their feelings." It is worthy of remark that the sacrifices which the cities made, were soon recovered; as in the case of Rotterdam, which imposed a weekly fee of only twenty cents, (= eight cents, American,) upon each scholar, yet the income from the tuition schools, whose expenses amount to about 6,500 florins, yields a surplus above the expenses, which is appropriated by the city to its children's asylums. These tuition schools are now, as we have seen, everywhere prevalent; public confidence in them is continually becoming more firmly fixed, while every year sees the discontinuance of a number of the private institutions.

II. SECONDARY OR INTERMEDIATE SCHOOLS.

A. LEGISLATION.

Instruction in the intermediate schools of Holland stands in close relation to the course of study in the universities; the royal ordinance of August 2, 1815,—by which the course of study was entirely changed,—embraced alike institutions of two grades, viz., the so-called "Latin schools," which correspond to the German gymnasia,—and the Universities, with some high schools of like rank, but which confer no degree, and are known as "Atheniums." We have to do here only with the Latin schools, and will afterward notice to some extent the different special schools. If the democratic spirit of Holland is manifested in the organization of its common schools, the strong influence of old customs and old prejudices, makes itself felt in the arrangement of the higher schools. Intermediate school instruction is confined entirely to the cities, and every city esteems it an honor to have a Latin school; it might be supposed that this was one of the ancient prerogatives of citizenship. The Latin school is under the control of a board of overseers, who nominate to the city council the candidates for vacant teacherships. This council appoints and pays the teachers. In regard to the university, the state possesses the influence that is due to it; but for the schools, it can only issue ordinances relating to the objects and means of instruction, and require the securities that are thought necessary. Each school has a rector and an associate rector, (the provisor and censor of the French lyceum,) and one or more professors in addition, according to the means of the institution, and the number of pupils. Very often the rector is the only professor, in which case he instructs the first class, and the associate rector the second. These officers must have obtained the degree of Doctor of Philosophy, which requirement virtually excludes the mathematics from the highest place in the school. Of the other teachers, it is only required that they have the candidates, degree.* These institutions are designed

* Each faculty can confer two academical degrees; 1, the candidates' degree, which is the lowest. This degree in literature, (in litteris,) from the faculty of philosophy, can be obtained at the shortest, in one year after entering upon the academical course, and is made a condition to admission to the study of theology and law; whoever wishes to study medicine must have received the candidates, degree in mathematics and natural philosophy; and in order to become a preacher, one must have the same degree in literature and theology. 2, the Doctors'

only for day-scholars (keine internate;) boarding schools are not looked upon with favor by the Dutch, in whom love of family and home life is an essential characteristic. The course of instruction includes principally the Latin and Greek languages, and in respect to these there is left little to be desired. Of the remaining branches, until within a short time, this could not be said. By the ninth and tenth articles of the ordinance of 1815, it was required that the pupils should, at the close of their daily exercises in Latin and Greek, receive instruction in the elements of mathematics, in geography, and in ancient and modern history;—but there is none in natural philosophy, none in the modern languages!

The amount of instruction in mathematics was left entirely to the rector. It was considered a subordinate department, and was usually taught by the professors of other branches, who received therefor an additional salary. In case of necessity, a special teacher was provided, but the position was an inferior one, and he received no tuition fees. This was the condition of things before the separation of Holland and Belgium. And what was the result? Instruction in the mathematics, as it had become reduced to almost nothing in the Latin schools, fell into neglect at the universities also. This occasioned frequent and earnest complaint, especially in Belgium, for many still remembered the more perfect organization of the French lyceum. The government heeded these complaints, and by an ordinance of 9th September, 1826, included a knowledge of arithmetic, algebra and geometry, among what was required for admission to the academical course. Unfortunately the law permitted the enrolment of a student, even without a satisfactory mathematical preparation, if the professor of mathematics at the university only declared that the student was capable of following his lectures. "If human nature is the same in Holland that it is in France," says M. Cousin, very justly, upon this point, "every examination that is made by one person only, is worthless. How can it be expected that a professor of mathematics, to whose chamber comes a student of philosophy, of law, or of theology, will carry his stoicism so far as to refuse to him or his whole family, after the thousand times repeated intercessions that will be made, a certificate that can in no way prejudice mathematics, but the denial of which must injure the overseer of the university of which the professor is himself a member?" It was to be expected that this certificate would never be refused, and that the students, knowing this, would never take the pains to deserve any other. But while the error here lay in too great lenity, the mistake was made on the other hand, of excessive strictness in demanding of a doctor of philosophy evidence of his capacity to *teach* with success the elements of arithmetic, algebra and geometry. They failed to obtain their object, from adhering too closely to the letter of the ordinance of 1815. The reform plan of 1826, meanwhile remained in operation; it was not

degree, which presupposes the former. This degree is essential to the attainment of many offices and positions, and it also entitles the possessor to many marks of distinction; in an assembly of jurists, for example, one that has the doctorate, takes precedence of those members who have not received the degree.

until twenty years later, in 1845, that a new committee was appointed to draft a new plan, which, however, was very far from receiving all the votes of the chamber; and to increase the complication, there had now been raised the question respecting religious instruction. Two concurrent circumstances favored the reform plan, and were the means of partially effecting what should have been done long before. Many towns had added to their schools an industrial department, a kind of real-school, (with a four years' course,) and increased also the amount of mathematical study required of the pupils in the Latin schools. These improvements were made in the year 1843. Moreover a royal decree of May 23, 1845, required that an annual examination should be made of the proficiency of the students in all the departments of gymnasial instruction, before a central committee, who should make their report to the minister of the interior. But while it was with reason expected that the edifice would soon receive its cap-stone, this commencement, which had already in 1852 suffered important changes, was suddenly demolished by the minister, Van Reenen. It has been said that it would be restored in the next law. However this may be, the professors are zealous in their endeavors to remedy the faults of the present arrangement. But whatever may be done, the organization of the greater number of the small Latin schools is, and will always remain, necessarily very defective. For how can it be otherwise, while there are schools which number only a rector and professor, in the same person, with some three, five, seven, eight, perhaps fifteen, or twenty scholars? Holland could here follow the example of Belgium, where instruction in the ancient languages is perhaps less advanced, but where on the other hand, since the centralization of 1850, and the establishment of industrial schools, giant strides have been taken at least in respect to the course of study and the conformity of the general plan to the proposed object. Moreover it should not be forgotten that the course of instruction in the gymnasia is not designed merely to prepare youth for the studies of the university; and that the academical lectures require that the hearer should bring with him something more than a certain amount of knowledge of the ancient languages, however valuable this possession may be.

a. Classification of Schools.

The intermediate schools are divided into Latin schools, properly so called—which are regulated in accordance with the royal decree of October 6, 1843,—and gymnasia, provisional and definitive. These institutions are not equally complete, but are all arranged upon the same principle. In one school we find a special teacher for the mathematics, and professors for the modern languages; and in some, Hebrew even is taught; in another there is a rector only, or at best, assisted by a single aspirant. As at the time when M. Cousin made his journey, and found in the school at the Hague one professor for each class, who was obliged to teach all the branches of the course with the exception of mathematics, and in the school at Utrecht, saw, on the other hand, the system of

departmental instructors carried to the extreme, so at this day there exists manifold differences as respects internal arrangement and extent of study. In the principal gymnasia, as at the Hague, Amsterdam and Utrecht, there are usually five Latin classes; generally the scholars remain in the upper or rhetorical class (*Prima*,) twice as long as in the others, so that there are in all, six years of study. M. Cousin, in the upper class of one institution, met with those ranks (*ordines*,) in which instruction was carried gradually forward in such a way that the pupils learned by degrees to labor self-dependently, and thus became better fitted to enter upon the life of the university. In the first division weekly compositions (hence call "*Hebdomidarien*") were prepared; in the second, monthly exercises only were required, while in the third the instruction received was in the form of general directions merely. Instruction was given more by informal discourses, than by lectures. This method favored most effectually the development of each individual in accordance with the peculiar bent of his intellect and disposition, and was on this account an admirable means of education, and produced a class of well-trained, capable scholars. It is evident, however, that this method can be followed only when the number of pupils is limited. Since that time there have been no changes of importance; which may be considered fortunate, for there can be no better instruction, so long as the system can be pursued judiciously. The number of scholars in attendance at the Latin schools is always considerable, and is made up in general, of spirited, wide-awake youth, who know what labor is.

The learned professions are not overlooked in Holland as they are in other countries, and the young men who enter them, have fewer disappointments to fear. The students have a session of three hours in the morning, and as many, four days in the week, in the afternoon—but only two during the three winter months. The vacations continue six weeks, and in their arrangement are accommodated, so far as possible, to local circumstances. In 1857, there were taught in seventeen Latin schools, only those branches which are prescribed by the ordinance of organization, viz., Latin and Greek, elementary mathematics, history and mythology; no especial instruction was given in their own language; in five others this was added; two afforded instruction also in French,—three, in German,—two, in English,—and two, in Hebrew. Only in two schools was natural history taught. In all the provisory gymnasia these four living languages are taught, and in three of them natural history and Italian book-keeping. Finally, the definitive gymnasia give instruction likewise in the same four modern languages, and at Dortrecht, the Italian in addition; at four gymnasia, Hebrew is taught,—at eight, natural history,—and at three, book-keeping. At Rotterdam and Maastricht, commercial instruction is also given; at the latter place and at Deventer, instruction in chemistry and mathematics; at two gymnasia linear drawing is taught,—and at one, calligraphy. In all these institutions there were two departments, (*Afdeelingen*,) of which one included the Latin

classes,—the other, (as in Belgium,) the practical studies, which were continued, whenever possible, through four years; but only in Bois-le-duc and in Maastricht was the course of the study in the second department fully organized and separated from the first.

b. *Regulation of the Schools.*

A superintendent of the Latin schools is attached to the department of the interior. There exists no normal seminary for the special training of the teachers in the intermediate schools. In regard to this, as well as the salaries, tuition fees, &c., almost the same may be said of Holland, as of Belgium before the passage of the law of June, 1850. The differences of minor importance it will not be worth the while to particularize.*

B. STATISTICS.

The condition of the Latin schools and gymnasia during the school year 1857-8, is shown in the following table.

PROVINCES.	Latin Schools.	Provisory Gymnasin.	Definitive Gymnasin.	No. of Prof's.	Scholars in 1st Dep't	Scholars in 2nd Dep't.	Mixed scholars.	Total scholars.	Pop. of the cities.
North Brabant,	10	1	1	31	166	48	.....	214	75,402
Geldern,	9	1	4	42	169	78	.....	247	101,251
South Holland,	2	...	7	57	221	122	23	366	203,516
North Holland,	1	2	2	25	101	62	4	167	314,810
Zealand, . . . . .	...	...	2	7	25	8	.....	33	23,185
Utrecht,	2	...	...	12	96	.....	.....	96	60,090
Friesland,	5	1	1	17	108	8	.....	116	60,061
Over Yessel, ..	4	2	1	27	101	118	.....	219	61,641
Gröningen, . . . . .	...	...	2	12	67	21	33	121	40,653
Drenthe, . . . . .	...	...	2	6	30	38	11	79	11,907
Limburg, . . . . .	...	...	1	16	54	94	.....	148	27,925
....Total,	33	7	23	252	1,138	597	71	1,806	980,441

In the year 1817, there were 68 Latin schools in the northern provinces of what then was the kingdom of the Netherlands; from 1831 to 1835, there were 62 within the limits of the present kingdom, (with 1,315 scholars in 1831, and 1,255 in 1835;) in 1848, the number of Latin schools was 71, with 1,888 scholars (1,563 in the first department, and 325 in the second;) in 1849, there were but 70, with 1,887 scholars, (1,500 and 387 in the two departments;) as several of the schools had no scholars, they have been discontinued since the death of their rector. The intelligent reader will draw more than one important inference from a comparison of the figures in the above table. In some provinces all literary studies are concentrated in large institutions, as in the Atheneum at Maastricht in Limburg, a completely and ably organized school with sixteen professors; in other provinces, the whole are scattered in fragments, and the insignificant means of these small schools is an effectual hindrance to any actual advance in accordance with the spirit of the age. It will be noticed also that the numbers of the scholars in the first and

* See Public Instruction in Belgium, Vol. XV., p. 675.

second departments have an inverse ratio, compared with those of Belgium.

Limburg has literary institutions which are not included in the above table; the Royal College at Roermond, (with a boarding school and instruction in the Catholic religion,) the Industrial School at Venloo, and the Seminary at Herzogenrath, on the borders of Prussia. This last mentioned institution, founded in 1831 by Van Brommel, bishop of Liege, was originally a seminary for priests; but since the ratification of the treaty of the twenty-four articles of 1839, and the annexation of this portion of Limburg to Holland, the theological students have removed to St. Trond. King William II., however, would not permit a school to decline that had once flourished upon the territory that had now fallen to him. "Je vous maintiendrai" cried he, in the words of the device of his house, when he visited Herzogenrath, in 1851. And so a large school has again been organized in the noble buildings of the former abbey of Rolduc, under a grant made by the bishop of Roermond. It includes a theological seminary, (with six humanity, and two philosophy classes,) an educational Institute in two departments, (one German and the other Dutch,) with a four years' course of study in each, and a Teachers' seminary. The instruction, as far as the branches peculiar to the intermediate school is concerned, is as thorough as in the Belgium atheneums. In addition, philosophy, Greek and Roman antiquities, and the Italian language are taught; the last is merely optional (*facultativ.*) The corps of instructors numbers twenty-five, without including the teachers of drawing, music, and gymnastics. In 1851, there were 300 students in the humanity department, 126 in the Institute, (86 German and 40 Dutch,) and 30 in the Teachers' seminary. The humanity students, after finishing the course here, go very generally to Löwen, or Münster, to complete their studies. There are also many private boarding schools, especially in North Brabant and Geldern. There exist no public schools for higher female education.

C. MISCELLANEOUS REMARKS.

a. *Course of Study.*

The grammars most generally used are those of Dorn Seiffen (professor at Amsterdam,) Bake, Zumpt and Madvig; we meet less frequently with those of Vossius, Weytingh, and Brödder. Weytingh, Dörring, Bake, and Reitz are preferred in the study of composition. The smaller lexicons of Scheller and Kärcher, translated by Bosche, are very frequently used; occasionally also, Georges, Noël, Kärcher, edited by Terptra, Scheller unabridged, Petiscus, &c. The official reports of the jury complain that very often two or three grammars are found in use in the same institution, and that the scholars at the close of their studies usually show in their compositions more correctness than understanding of what constitutes Latin elegance. The classics most frequently translated by the higher classes are—Sallust and Cicero, (*orationes selectæ, de amicitia, de senectute, de officiis;*) Ovid's *Metamorphoses*; Virgil's *Æneid*; the *Odes*, and rarely, the *satires*

and epistles of Horace ; and occasionally Livy and Tacitus. Until within a few years, the prose writers were studied with more attention than the poets ; prosody and metrics were almost entirely neglected. The "*Gradus ad Parnassum*" was not found among the school-books. But now a marked advance has been made ; and in the rhetorical classes it has by degrees become customary to compare Dutch translations in verse with the originals, (as the *Metamorphoses*, by Bilderdijk ;—the *Odes* of Horace, by Van Winter ; the *Æneid*, by Madam Van Steek,) and to point out to the students the rules of Dutch versification, while at the same time their knowledge of the prosody and rhythm of the Latin language was made more thorough. On the other hand more importance is placed here than in Belgium, upon Latin composition and speaking. In Greek, after two years have been spent in learning the paradigms and rules, two more are devoted principally to the translation of Homer and Xenophon, in which a knowledge is also gained of syntax ; in the rhetorical class the course is completed by the translation of some one of the tragedies.

Frequently a portion of Isocrates, or of Lysias, is also taken up, — sometimes one of the biographical dialogues of Plato. The theory of the accents is not neglected ; nor prosody, in the reading of the poets. More methodical and accurately progressive, than rich in variety, the instruction given by the professors of Holland is thorough, and produces its appropriate effect, as is shown by the style of the majority of the academical dissertations. Pains are taken to inspire the pupils in the Latin schools with an interest in the writings of the ancients, while teaching them the history, in a condensed form, of classical literature. The manual of Weytingh is preferred in the Latin schools of the whole country. As a highly valued work made use of toward the close of the course, we may add the "*Rhetorica contracta*" of Vossius ; also the "*Præcepta stili bene latini*" of Scheller, and, by the same author, the "*Inleiding tot het lezen, van de Schriften der Ouden*," (Introduction to the reading of the classics.) Zealous attention is now given to instruction in the native language, which for a long time was regarded as of secondary importance. In respect to mathematics there yet remains much to be done. Ancient history and geography, mythology and antiquities, are of necessity, and fortunately, associated with the study of literature. National history too is receiving more general attention. Still it can be said with truth that many a scholar of the public schools is more familiarly acquainted with the actual world in those relations in which he will be called upon to labor, than his more advanced school-fellow in the Latin schools. If Holland, which seems to accept German ideas with increasing readiness, were only imbued with the spirit in which the organization of the gymnasia in most of the allied states has been effected, there would be nothing more to desire. It is remarkable how persistently this people, prone to regard only the actual and practical, has clung to the old idea that realistic instruction is to be avoided as far as possible, while the study of the humanities is alone to be considered as effectual

to the harmonious culture of the human faculties, and as a preparation for the duties of life and future studies. The eyes of the people are now opening ; but it would seem that Holland still remains so proud of its ancient philological reputation that it is determined to protect from every profane touch and from every attempt at removal, whatever has been devised for the purpose of preserving the remains of that reputation and perpetuating the remembrance of it.

b. *Special Schools.*

There still remain to be mentioned several special schools, differing very much in character, which are more or less nearly on a level with the intermediate schools, or even rise above them, but which still can not be properly included among the academical institutions. In connection with the army there are organized schools of every grade ; the *Instructie-bataillon*," with 736 pupils in 1857, for the children of soldiers and officers of all ranks, in which instruction in the Malay language is given to those who intend to enter the East India service ; schools for the militia, with 3,587 scholars ; and also for the inferior officers, with 70 pupils in the scientific department. Ranking above these, there are the Royal Military Academy, with 322 cadets in 1858-9, the Royal Marine Institute at Williamsoord, with 131 pupils, and the Seaman's school at Flushing, with 49 pupils. There are, besides these, several other marine schools. At the Royal Academy at Delft, engineers and officers for the colonial governments are educated ; this is a school of a higher grade, excellently managed, as is every other national establishment, designed to supply an immediate want. Of schools of military medical science, and of hospital and veterinary practice, there is no want in Holland. Gröningen possesses a school of agriculture ; Amsterdam like Antwerp, in Belgium, an Institute of trades and industry. The institution for the deaf and dumb at Gröningen, has attained a deserved reputation ; in 1857-8, it numbered 143 pupils of which 110 were instructed gratuitously, 27 paid from ten to fifty florins, and six paid 100 florins or more. Two other institutions of the same kind are located at St. Michelsgestel, and at Rotterdam, with 80 and 40 pupils respectively, in the same year. These are controlled by commissioners, and sustained principally by voluntary contributions ; they are permitted also to receive bequests and donations. The German method of instruction is generally used, as appears from the manual recently issued ; "*Spraak en Lesorfeningen ten Dienste van doofstomme Kindren*," (Exercises in speaking and reading for the use of deaf and dumb children.) The Institution for the Blind, at Amsterdam, also deserves notice. It had in 1857-8 no less than 65 pupils—36 boys and 29 girls. With these, as with the deaf and dumb, practical instruction is associated with the teachings of the school-room. Connected with the institution, is an asylum for such of the poor as are not capable, after leaving the institution, of providing for their own wants. Finally, the government has made provision for the instruction of criminals in the prisons, guard houses, and local jails. Of 17,869 prisoners in 1857, instruction was given to 2,972. Of the remainder,

8,390 were considered as sufficiently well educated, and 6,507 were exempted on account of old age and sickness. Forty-two teachers were employed in the civil and military prisons.

c. *Atheneums.*

The Atheneum, properly so called, at Amsterdam, with 118 pupils, in 1857-8, and the one at Deventer, with 32 students, are in reality from the character of the instruction there given, universities upon a small scale. The institution at Deventer may be said to bear the same relation to the three state universities at Leyden, Gröningen and Utrecht, that the small Latin school does to the larger gymnasium. Francker and Harderwick, have also their atheneums. With the exception of the atheneum at Amsterdam, known as the "Atheneum Illustre," which is an indispensable institution to so large a city, these are but the relicts of a splendor that is past. They may be of benefit, inasmuch as they furnish a means of support to a number of talented men whose resources would otherwise be small; but this division, this isolation of forces, which if united would be more than doubled in efficiency, is always to be deprecated. For a proof of this we need but to examine the condition of the three great universities of Holland.

D. CONCLUDING REMARKS.

The second section of the Reform Bill, which was carried through in 1829, but never went into operation in consequence of the events that resulted in the dismemberment of the kingdom of the Netherlands as defined by the allied powers in 1815, reads as follows; "The design of the intermediate schools is three-fold—to prepare youth for a course of academical study, to supply the want of a careful education to those who do not desire an academical degree, and lastly to impart practical information to those who purpose devoting themselves to business, to industrial and mechanical trades, or to the other useful occupations of civil life." Belgium, which since 1830 has had to establish every thing anew, and being engaged more in industrial occupations than in commerce, considers applied science more necessary than does its neighbor, with the exception of navigation, has never lost sight of these considerations, and has finally carried them into actual operation by legislative enactments. The better minds in Holland have also appreciated the advantages of this course, and by degrees have successfully attempted improvements of a like character; but as yet they have not succeeded in introducing a uniform system. Holland possesses an excellent system of public instruction and universities, which still in general prove themselves worthy of their ancient renown, but their progress is restricted so long as the course of instruction in the immediate schools is not by law rendered complete, and made to harmonize with the progressive movements of the age. Moreover if the government proclaims the freedom, to a greater or less extent, of instruction, it must also provide institutions that shall afford every facility for the satisfaction of the wants of all classes.

itself the right to employ in its own service the talent and future abilities of the educated. And it is on this very account that the question respecting secondary instruction is at this time one of such importance in Holland. If it be desired to attain a result that shall be really advantageous, it will not do, resting upon the constitution, to leave the parishes to their own resources, for the sake of avoiding opposition; it is necessary that the Latin schools, small and irregularly scattered over the country, should disappear, and give place to preparatory schools, (*Pro-gymnasias*), where these are needed, but especially to institutions corresponding to the intermediate schools of Belgium, or to the real and burgher schools of Germany. Should a number of such gymnasia be established, they must also be ably managed, and completely furnished, so as to realize the ideal of the men of 1829. Instruction in Latin and Greek will lose nothing by this, and the close connection that exists between the three grades of instruction will no longer be interrupted. If to day the number of scholars in the Latin schools be compared with the population of the cities which sustain these institutions, (saying nothing of other cities,) one will be astonished at the disproportion, and must come to the conclusion that the greater portion of the citizens are content with the education received at the public schools. This is to be regretted. For as primary instruction, in accordance with the principles already explained, should not be raised too high, so also the wealthy class ought not to fall below their proper grade of mental culture. A rigid limitation in the education of the several classes of society would be equivalent to a creation of caste, and would prove a dangerous experiment. A continual gradation throughout is therefore essential to a national system of education, and there is no other way of effecting this than to perfect the course of popular study by an addition of general information, and the classical course, by the needed complement of instruction upon practical subjects. This connecting element is provided by a judicious organization of the system of intermediate instruction.

LUXEMBURG AND LIMBERG.

THE GRAND-DUCHY OF LUXEMBURG, anciently a German earldom, elevated to the rank of a duchy in 1354, purchased by the Duke of Burgundy in 1444, and ceded by Austria in 1797 to France, was assigned to the house of Orange in 1815, in indemnification for territory ceded to Prussia and Nassau. In the revolution of 1830 it was divided into two portions, the eastern part (1,012 square miles and 188,000 inhabitants in 1860) remaining with Holland.

The DUCHY OF LIMBERG, anciently an earldom, inherited by the Duke of Brabant in 1280, and subsequently annexed to Burgundy, and with that duchy came under the sway of Spain, and then of Austria, until by the peace of Westphalia it was ceded to the Republic of the United Provinces. It had an area of 852 square miles, with 198,000 inhabitants.

The same views which have governed the more advanced educationists of Holland in regard to secondary schools have prevailed in the Archduchy of Luxemburg, which although belonging to the house of Orange, still has its own legislature and government, owing to its position in the German confederacy. Public instruction is there admirably organized, and in fact every class of society has its own. There are no universities, but the course of instruction at the Atheneum of Luxemburg, (with some 370 students,) is sufficiently extended to fit young men for the candidates' degree in literature and the sciences; the degrees are conferred by a local jury, who are governed by the Belgian regulations. This Atheneum, which has twenty professors and four tutors, is as perfectly organized as the better gymnasia of Prussia. Diekirch has a preparatory school, (Pro-gymnasium) with eight professors, four tutors, and four classes; Echternach possesses a Latin and a real school, and also an agricultural school. A teachers' seminary is established for the training of those who are to become public school teachers. A superintending committee of public instruction, assisted by a subordinate standing committee, preside over and manage the whole. The superintendence is conducted generally as in Belgium; and in both countries alike, have the traditions of Holland left a deep impression upon popular instruction. A common language and daily intercourse with the Germans have also, for some years past, exerted a marked influence upon the Luxemburg character.

LAW OF PUBLIC INSTRUCTION IN HOLLAND.

THE LAW AND GENERAL REGULATIONS OF 1806.

THE LAW.

THEIR *High Mightinesses*, representatives of the *Batavian Republic*, to all to whom these presents shall come greeting, &c.

Having received and approved of the proposal made by the Grand Pensionary, it has been resolved to decree, as by these presents we do decree as follows:

LAW OF PRIMARY INSTRUCTION IN THE BATAVIAN REPUBLIC.

ARTICLE 1. The special inspection of primary instruction shall be confided, throughout the whole extent of the Batavian Republic, to functionaries who shall be called school inspectors, and who shall carry that inspection into effect, either concurrently or conjointly, according as the situation shall require, with other persons or commissions, according to the nature of the schools; the whole nevertheless under the chief superintendence of the Grand Pensionary, or, in his name, of the Secretary of State for the Home Department, and under the superintendence of the provincial authorities.

ART. 2. The provincial authorities shall take care that, throughout the whole extent of their province, young persons shall have every means of receiving a suitable education; without however, by an unlimited permission, allowing the number of teachers and of schools to be too great, especially in the rural districts.

ART. 3. They, as well as the parochial (*commune*) authorities, shall endeavor to ameliorate, and give security to, the condition of the teachers; according to such means as are at their disposal, or according to such as shall be supplied by the government, in case of need. They shall further take pains to encourage the adoption of the best system of education in the primary schools, to establish schools of industry in connection with the public schools, and maintain such as are already in existence in workhouses.

ART. 4. The school inspectors living in the same province, shall constitute the Board of Primary Instruction for that province.

ART. 5. Besides the power vested in the provincial authorities to appoint out of their own body a committee to watch over the primary schools, they may appoint from among themselves a member, who shall have particular powers to that effect, who shall stand in a neutral capacity between the committee of education and the school inspector, and to whom the latter must in the first instance apply in all matters relating to the school. In the department of Holland, there shall be two or three named, viz., one for each committee therein appointed.

ART. 6. The Grand Pensionary shall fix the sum total to be granted to each board. There shall be a provision in the budget for that special purpose, and it shall cover all the expenses and disbursements by the school inspectors, when allowed by the Secretary of State for the Home Department.

ART. 7. The number of members of which each board shall consist, the boundaries of the districts, and the sum which shall be allotted to each, out of

the general fund, shall be regulated by the Grand Pensionary, and may be revised and modified according to circumstances.

ART. 8. The first named members of each board, and the members who may eventually be added to it, shall be nominated by the Grand Pensionary.

ART. 9. The Secretary of State for the Home Department shall submit to the Grand Pensionary all the necessary propositions concerning the different objects mentioned in the three preceding articles.

ART. 10. When a vacancy in the situation of a school inspector is to be filled up, the respective boards shall deliver to the provincial authorities a list, containing the names of two persons, who shall transmit the same to the Secretary of State for the Home Department, adding thereto such observations as may appear to them advisable; and, if they shall see fit, increasing the number of candidates by one or two persons. The Secretary of State shall submit that list to the Grand Pensionary, who shall appoint the school inspector.

ART. 11. The boards of primary instruction, the school inspectors, and all other local boards for schools which may be instituted in conformity with ulterior measures, shall take care that the law and regulations relative to primary instruction, both general, and special, be executed, and be not evaded, nor rendered inoperative, under any pretext whatsoever, in the provinces, districts, towns, or parishes, which form part of their jurisdiction. If such a case should arise, a complaint must be laid before the parochial, provincial, or national authorities, according to the exigency of the case.

ART. 12. No primary school shall be established, or shall exist, under whatsoever denomination, without express leave of the respective provincial or parochial authorities; who shall previously take the opinion and advice of the school inspector of the district, or of the local school board.

ART. 13. No one shall be allowed to teach in a primary school in the Batavian Republic, without complying with the four following conditions:—

First. He must produce one or more satisfactory certificates of good character, both as to his morals and his conduct as a citizen.

Secondly. He must have a certificate of general admission to exercise the calling of a teacher.

Thirdly. Besides such certificate of general admission, he must produce a *call, nomination, or special appointment*, to some particular school, legally obtained.

Fourthly. After having obtained such call, nomination, or special appointment, he must appear, with such proofs as may be desired, (either individual witnesses, or written testimony,) before the school inspector of his district, and before the local school board.

Tutors living in the houses of private individuals, and exclusively engaged in the education of the children of the family, are exempted.

ART. 14. All those who, after the passing of the present law, shall open a primary school, or give primary instruction, under whatever denomination, or in whatever manner it may be, in contravention of the two preceding articles, shall, for the first offense, incur a penalty of fifty florins, and for a second offense, of a hundred florins; whereof one-third shall be given to the public officer who brings the complaint, and the two remaining thirds shall be applied for the benefit of the respective local schools.

If the offenders shall be unable to pay the penalties, the judge shall have

power to inflict such other punishment as he shall deem advisable, due regard being had to the persons and the circumstances of the parties: for a third offense they shall be banished from the parish for six consecutive years.

ART. 15. The stipulations contained in Article 13, shall not apply to existing teachers legally exercising their functions, so long as they do not change their school, or their domicile; with the reserve, nevertheless, of subjecting them to the said enactments, in cases of notorious bad conduct or extreme ignorance.

ART. 16. General admission, for any department of primary instruction, can only be obtained by a previous and suitable examination before the competent authorities.

ART. 17. The calls, nominations, and special appointments shall be given by such boards as shall be hereafter determined on by the local regulation mentioned in Article 20; and in such a manner, moreover, that no call, nomination, or appointment shall take place, unless the school inspector of the district, or the local school board be duly informed thereof, and unless the certificate of general admission shall have been previously laid before the inspector.

ART. 18. All those who, having obtained a certificate of general admission, shall be guilty of neglect in the discharge of their duties; or of any infraction of, or resistance to, the law; or of notorious bad conduct; shall be punished, for the first offense, by the suspension for six weeks of the privileges of their certificate of general admission; and in case of a repetition of the offense, by that certificate being rendered null and void; and they shall be deprived of any right or advantage derivable from their call, nomination, or special appointment: and should they, notwithstanding, continue to teach, they shall be subjected to the punishments and penalties stated in Article 14.

ART. 19. The above mentioned temporary suspension or annulment of the privileges of the certificate, shall be ordered by the parochial, provincial, or national authorities competent to judge therein, upon a motion to that effect in the provincial board of education, or in the local school board; who shall confer, if necessary, with such persons as may be in most direct communication with the teachers in question.

ART. 20. All further and particular conditions which shall be deemed necessary for the advantage of primary instruction in each province, shall be contained in a local code of regulations, which shall be drawn up by each provincial board, in conformity with Article 5, and shall be submitted to the provincial authorities; who, after having obtained the sanction of the Secretary of State for the Home Department, shall give formal effect to it.

ART. 21. The Grand Pensionary shall decide upon such farther regulations or instructions as may be necessary for the uniform and effective introduction of this law, as well as all other regulations which shall have a tendency to make primary instruction in general more perfect.

All proclamations, statutes, ordinances, or regulations, now in existence in this republic, on the subject of primary schools, under whatever denomination they may be, and especially the decree of the 29th of July, 1803, as well as all the regulations and ordinances for schools founded upon them, shall, without any exception, be rescinded and annulled, from the moment that the present law shall be declared to be in operation, by its being promulgated by the Grand Pensionary.

By virtue of Article 21, of the above law, the several regulations and instructions indicated below by the letters A. B. C., are now decreed in like manner as the present law is decreed.

REGULATION A.

Concerning primary instruction, and the establishments connected with it, in the Batavian Republic.

ARTICLE 1. By a primary school, is to be understood, every establishment, of whatsoever denomination, whether schools, colleges, institutions or otherwise, in which the young of different ages and of both sexes shall be educated, whether collectively, or separately, in the first principles of knowledge; such as reading, writing, arithmetic, and the Dutch language; or in more advanced branches of knowledge, such as the French, and other modern languages; or the ancient tongues; geography, history, and other subjects of that description; finally, any establishment having for its object to prepare young persons for a higher education; the ordinary Latin schools and gymnasia, excepted.

ART. 2. Primary schools are hereby divided into two classes:—1. Those which are directly supported, either wholly, or in part, by an annual allowance from any particular fund, whether of the State, province, or parish; from ecclesiastical funds or those belonging to any foundation; or which, in any way, receive permanent assistance or support from any public fund. 2. Those receiving no assistance from any public fund, which are supported by private means or by donations. The first are to be deemed public schools, the second private schools; and the teachers are consequently to be classed as public teachers and private teachers.

ART. 3. The private schools mentioned in the preceding article are of two kinds:—1. Those which belong exclusively, either to a deaconry, to a hospital *Godshuis*, of any religious community, or to the society "FOR THE PUBLIC GOOD;" or to any foundation whatever, supported entirely at its own expense; or to such as are wholly maintained at the expense and at the risk of one, or of several individuals, who have formed an association for the entire and regular support of these schools: 2. Those which have no other income than what they derive from the fees of the pupils, receiving no permanent grant or annual allowance.

ART. 4. Primary instruction, in the Batavian Republic, shall be given in the public and private schools mentioned in Articles 2 and 3, of the present regulations;

In part, by teachers of both sexes, including such other individuals as may act as assistants to, or substitutes for, the master or mistress, or who under the name of under-master, or under-mistress, or the like, are intrusted with some branch of tuition in these schools;

In part, by such teachers of both sexes as under the title of teacher of languages, revisor, (*répétiteur*), or any other, give lessons either in their own houses or abroad; and who are engaged in teaching some separate branch in the lower departments of tuition, to one or more pupils, in conformity with Article 1, of this regulation.

All such individuals are comprehended in the general law, and shall be designated by the names schoolmaster, schoolmistress, and teacher of languages, the latter term applying to those who give instruction in private houses.

Governors or tutors, and governesses, are alone excepted.

ART. 5. Every school inspector shall have his own particular district, the inspection whereof shall be confided to him individually, and in which he must, if possible, reside. The particular functions of the inspectors are regulated by *special instructions* for the boards of education. (*Regulation C.*)

ART. 6. The boards of education shall be provided by the provincial authorities, with every thing necessary for holding their meetings, such as a suitable room, fire, light, paper, &c.

ART. 7. If the Secretary of State for the Home Department shall deem it necessary, he shall summon an annual general meeting of deputies from all the provincial boards, to be held at The Hague; he shall preside at that meeting, and they shall deliberate upon the general interests of the primary schools.

ART. 8. Each provincial board shall send one of its members as a deputy to attend that meeting, and his expenses shall be defrayed according to a scale hereafter to be determined upon.

ART. 9. In small towns, villages, hamlets, or other places, where, in addition to a public school, there are not two or more private schools of the second class, exclusive of small schools kept by women, the school inspector of the district is authorized, in concert with the local authorities, to intrust one or more known and respectable persons with a local inspection, subordinate to his own, over the school or schools, and also over all the teachers of both sexes, in the place, whether village, hamlet, or otherwise, and for each separately.

ART. 10. In all the more considerable towns and places where, independently of one or two public schools, there are two or more private schools of the second class, exclusive of the above-mentioned schools kept by women, the parochial authorities, in concert with the school inspector of the district, shall establish a local superintendence of the primary schools, which shall consist of one or more persons, according to local circumstances, but so as each member shall have a particular division, and all the schools in that division shall be confided to him individually. These persons shall collectively constitute, with the school inspector of the district, the local school board, and their functions shall be determined by the local regulations regarding schools, which shall be issued in conformity with the general regulations, and with the conditions previously contained in the *regulations respecting examinations*, or in the *instructions for the boards*.

ART. 11. In the towns or more considerable places described above, the inspection of the public schools, in so far as it may at present be in the hands of a committee of directors, inspectors, or other persons of the like nature, and which is not at present, and can not be brought directly under the local committee of superintendence, shall be intrusted to the local board, or to two or more of the members thereof conjointly with an equal number of the members of the above mentioned committee. That united body shall constitute the local board for the public schools; and shall have power, under the direction and with the approbation of the parochial authorities, to settle its by-laws and mode of operation, according to circumstances, but in such a way, nevertheless, that the supervision of the instruction in these schools, and every thing connected with them, be wholly under their control.

ART. 12. The formation of these general local school boards, and the organization of the special local boards for the public schools, must take place before

the expiration of two months from the promulgation of this regulation. The parochial authorities must make a report to the provincial authorities, as well as to the provincial board of education.

The school inspector of the district shall discharge the duties of that local school inspection, until the boards shall have been established.

ART. 13. The superintendence of the private schools of the first class, shall belong to the school inspector of the district, or to the local school board, unless a system of inspection for that purpose be otherwise provided. It will nevertheless be the duty of the inspector of the district, or of the local board, to be informed as to the state and organization of those schools, in order that a report thereon be made annually to the proper authorities. The inspector, or the local board above-mentioned, shall be bound to furnish to the actual inspecting authorities over these private schools, all such information and observations as may contribute to the advantage of these schools. The before-mentioned inspecting authorities shall be responsible for carrying into effect all the regulations, both general and special, which have now been, or shall hereafter be issued, respecting primary instruction.

ART. 14. All masters engaged in primary instruction, and comprehended in the above Article 4, shall make themselves known, either personally or by writing, in the course of the month of July in the present year, to the school inspector of the district, or to the local school board. Such as shall then exhibit a preëxisting deed of call or nomination, shall, in title thereof, receive a certificate of general admission; and all such as may not be in possession of a deed of that description, but who in the opinion of the inspector, or of the board shall be considered deserving of the above-mentioned certificate, and shall have the approbation of the competent authorities, shall in like manner receive one. All those who shall have in this way obtained the certificate of general admission, shall be comprehended among the teachers, actually exercising a legal function, referred to in Art. 13, of the law.

ART. 15. In cases of extreme ignorance, after an admonition and previous notice by the inspector or local school board, six months at least shall be allowed; and at the expiration of that time, such masters shall be bound to exhibit to the provincial board of education, or to the local board, proofs of a commencement of improvement, in default of which they shall be either suspended or be deprived of their office, in conformity with Art. 18 and 19, of the law.

ART. 16. The enactments of Art. 13, of the law shall however not affect those persons who, having obtained from the competent authority a right to teach publicly, and to prepare young people in the higher branches of education, may be disposed to unite thereto some parts of primary instruction, whether the young persons be boarded with them or not; provided that in the case of boarders, whatever may be the number of the pupils, and in the other case, if the number shall exceed four, they give notice in writing to the provincial board, or to the local school board; it being also understood, that in teaching their pupils, they must not employ other persons than those who possess the qualifications required by Art. 13, of the law.

ART. 17. No one shall be allowed to become a candidate for a vacant school, or to establish a new one, or to give private lessons, without having first obtained a certificate of general admission. In like manner, no one shall be allowed to teach any other branch than that for which he shall have received a certificate of general admission.

ART. 18. In the event of a vacancy occurring in the situation of a teacher, those who have a right to become candidates shall give notice thereof, in writing, to the school inspector of the district, or to the local school board, adding the amount of the emoluments attached to the situation, in order that due notice may be given thereof.

ART. 19. In every nomination or special appointment, those who give it must deliver to the person nominated, whether public or private schoolmaster or schoolmistress, or teacher of languages, a written deed, setting forth exactly the several duties comprised therein; and these last, in all that relates to tuition, must in no case go beyond those for which the person nominated shall have been authorized by his deed of general admission. The said deed shall not confer any qualification beyond that which is granted by the nomination. These deeds, according to No. 4, Art. 13, of the law, must be exhibited to the school inspector of the district, or to the local board, before the person nominated can enter upon any duties; in order that due public notice may be given thereof.

ART. 20. Besides a call, nomination, or special appointment as teacher of languages, there must be one as schoolmaster; farther, each deed shall be valid only for the school or place for which it has been granted.

All parochial authorities shall have a right to confer a special appointment on schoolmasters, or on teachers of languages, to entitle them to give lessons in private houses within their jurisdiction; provided such schoolmasters or teachers of languages have been admitted in their province or district, with due observance of what is enacted by Art. 17, of the law; and at the conclusion of the preceding article in this regulation.

ART. 21. *A general regulation for the internal order of schools*, to be drawn up and issued by the Secretary of State for the Home Department, shall be introduced into, and observed, in every school. There shall also be a special code of regulations for each school, drawn up in conformity with the general regulations. That special code shall be modified according to the wants and particular circumstances of each school, and shall be drawn up by the respective local inspecting authorities. It shall be sanctioned, in case of need, and according to circumstances, either by the local authorities, or by the provincial authorities. All these regulations shall be sent to the provincial board of primary instruction, by whom they shall be submitted to the Secretary of State for the Home Department.

ART. 22. The instruction shall be conducted in such a manner, that the study of suitable and useful branches of knowledge shall be accompanied by an exercise of the intellectual powers, and in such a manner that the pupils shall be prepared for the practice of all social and Christian virtues.

ART. 23. Measures shall be taken that the scholars be not left without instruction in the doctrinal creed of the religious community to which they belong, but that part of the instruction shall not be exacted from the schoolmaster.

ART. 24. At the expiration of a given time, public schoolmasters and schoolmistresses shall not be allowed to make use of any other elementary books than those which shall be contained in the list to be drawn up and issued by the Secretary of State for the Home Department.

From that general list, every provincial board shall be at liberty to make out a special list of books for the use of the schools in their province, to the exclusion of all other books, with the understanding, however, that private teachers

of the first class shall have a right to use such other books as their schools may require, with the approbation of the inspecting authorities appointed for their schools, and upon giving notice thereof to the school inspector or to the local board, where such exists. The private teachers of the second class shall have the liberty of proposing to the school inspector of the district, or to the local board, if there be one, such books as they may deem proper for any particular branch that is taught in their schools.

A report shall be made to the first meeting of the provincial board, of all that has taken place on this head, both as regards the private schools of the first and of the second class; which report shall be made by the school inspector of the district, and shall be submitted by the said board to the Secretary of State for the Home Department.

ART. 25. All persons who, by negligence, or by evil intent, shall fail to comply with the conditions of the preceding Articles, shall be subject to the punishments provided in the 18th Article of the law.

ART. 26. Notwithstanding the provisions relative to the suspension or annulment of the deeds of general admission, all persons and committees who have power over the private schools of the first class, shall retain the right to deprive the teachers of those schools of their call or nomination, either temporarily or absolutely, according as they shall deem it necessary for the interest of the school. Such persons or committees shall inform the inspector of the district, or the local board, of the fact, and of their reasons, in order that due public notice may be given thereof.

ART. 27. As concerns masters of public schools, masters of private schools of the second class, schoolmistresses and teachers of languages, the suspension or annulment of their deed of call, nomination, or special appointment, shall carry along with it the annulment or suspension of their deed of general admission; and due public notice thereof shall also be given.

ART. 28. In no private schools of the first class shall it be allowed that any other children be admitted to them, or be instructed therein, than those whose parents belong to the deaconry, hospital, society, or foundation to which these schools are attached, or are comprehended in the number of their inspectors or subscribers.

ART. 29. In the schools established for the poor, the children of the poor only can be admitted and taught.

In places where no such schools are established, the competent authorities shall take care that these children be received and educated in the ordinary school, either at the expense of the deaconry to which they belong, or out of some other fund.

ART. 30. The provincial and parochial authorities are recommended to take the necessary steps:

1st. That the emoluments of the teacher (principally in rural parishes,) be settled in such a way that his duties, when creditably performed, may obtain for him a sufficient livelihood, and that he be rendered as little dependent as possible, by direct aid, upon the parents of the children who frequent his school.

2d. That attendance at the schools be strictly enforced, and that they be kept open throughout the year.

The school inspector of the district shall make a report to the Secretary of State for the Home Department of all the measures that have been taken, or are

to be taken, for this end, and also of the effects that have followed therefrom, in order that such use may be made of them as the general welfare of the schools shall appear to require.

ART. 31. The Secretary of State for the Home Department shall employ all suitable means for training proper persons as teachers in primary schools, for exciting emulation among distinguished teachers, and for securing their maintenance and ameliorating their condition. He shall also adopt such measures as shall tend to spread a well regulated and truly useful education among the Batavian youth. He, as well as the provincial authorities, shall employ all their disposable means, to promote in the most effective manner, the perfecting of primary instruction; as well as to carry into execution, and maintain in full vigor, the law and all the regulations that belong to the subject.

ART. 32. The Grand Pensionary reserves to himself the right to interpret, to restrict, and to extend the present regulation in such manner, and at such time, as he shall judge useful and necessary.

REGULATION B.

Concerning the examinations to be undergone by those who desire to become teachers in the primary schools of the Batavian Republic.

ARTICLE 1. The teachers shall be divided into four classes, or grades, according to the amount of knowledge required, and according to the examination which they shall have passed.

The fourth or lowest class shall comprehend all such schoolmasters as are tolerably skilled in reading, writing, and the elements of arithmetic, including the rule of three, and who show some aptitude in teaching.

The third class shall be composed of those who read and write well, and are skillful in arithmetic, including fractions; and who can use these last in practical questions with facility. They must, besides, have some acquaintance with the principles of the Dutch language, and have acquired some correct ideas as to a good system of teaching.

The second class shall be assigned to all such schoolmasters as can read and recite well; who can write a good and neat hand; who are familiar with theoretical and practical arithmetic; who have advanced pretty far in a knowledge of the principles of the Dutch language; who have some acquaintance with geography and history; and who are capable of imparting a somewhat advanced degree of instruction.

The first or highest class shall consist of those who, besides being very skillful in all the different parts of primary instruction, shall possess, in an eminent degree, an acquaintance with the principles and practice of a judicious and enlightened method of teaching; to whom geography and history are familiar; who have made some progress in mathematics and mechanical philosophy; and who are distinguished by the general cultivation of their minds.

Schoolmistresses, although connected with establishments of different descriptions, shall collectively constitute one class only; and the same rule shall apply to teachers of languages.

ART. 2. Those who only desire to obtain a deed of general admission to qualify themselves as teachers of the fourth or lowest class, shall be required to undergo an examination before the school inspector of the district only, who shall make a report thereof to the board of education, in order that the latter

may declare the admission, and issue the certificate thereof, if it shall have taken place.

ART. 3. All those who are desirous of obtaining a general admission as a master of the third, second, or first class, must be examined by a provincial board of education.

ART. 4. Besides the examinations which masters must pass, in order to obtain a call, nomination, or special appointment, as hereafter provided, the local school boards shall have the right to examine all persons desirous of obtaining a general admission as a teacher of languages, or as a schoolmistress. Where there is no local school board, these examinations shall take place before the school inspector of the district, or by the provincial board, particularly in the case of the candidate proposing to teach foreign languages, or the higher branches of knowledge.

ART. 5. The provincial boards of education, the school inspectors, or the local boards shall not admit to examination for a general admission, any individuals who shall not have been domiciled, for a year preceding, in their province, district, town, or other place within their jurisdiction, except in the case of foreigners who may wish to settle there.

ART. 6. Every person desirous of passing an examination for the office of schoolmaster, schoolmistress, or teacher of languages, must appear in due time before the member of the provincial board, or before the member of the local board in whose district or section he or she resides.

If he be a foreigner, he must equally apply to the said member of the district or section in which he wishes to settle; and both the one and the other must produce, at the same time, one or more satisfactory certificates of good moral conduct and of good conduct as citizens.

The above named member shall then notify the time and place where the examination shall be held.

ART. 7. In these examinations, the object shall be, to ascertain not only the extent of knowledge of the candidate in the branches he is proposing to teach, but also his power of communicating that knowledge to others, and especially to children.

ART. 8. Before proceeding to the examination properly so called, the examiners shall endeavor to ascertain, in conversation with the candidate, his opinions on morals and religion, the sphere of his attainments, both with regard to the most indispensable parts of primary instruction, and to foreign languages and other branches which he proposes to teach; together with his aptitude to direct, instruct, and form the character of youth.

ART. 9. The subjects of examination shall be as follows:—

1. Reading from different printed and written characters; and whether with a good pronunciation, and a proper and natural accent, and with a knowledge of punctuation.

2. Some words and phrases designedly wrong shall be shown to the candidate, to ascertain his knowledge of orthography.

3. To ascertain the extent of his acquaintance with the grammatical structure of the Dutch language, a sentence shall be dictated to him, which he shall analyze, and point out the parts of speech; and he must give proofs of a familiar acquaintance with the declensions and conjugations.

4. The candidate shall write some lines in large, middle, and small hand, and shall make his own pens.

5. Some questions in arithmetic shall be proposed to him, confining this especially to such as are of common occurrence, and which shall be sufficient to show the dexterity of the candidate in calculations, both in whole numbers and in fractions. Questions shall be put to him on the theoretical parts, and especially on decimal arithmetic.

6. Some questions shall be proposed on the theory of singing.

7. Different questions shall be proposed relative to history, geography, natural philosophy, mathematics, and such other branches of knowledge as the candidate proposes to teach.

8. A passage in French, or in any other language in which the candidate wishes to be examined, shall be given to him to read and to translate. A passage in Dutch shall be dictated to him, to be translated by him, either in writing or *vivâ voce*, into the language which forms the subject of the examination. He shall be required to give, *de improvviso*, in the same language, a composition in the form of a letter or narrative, &c.; all for the purpose of ascertaining the degree of acquaintance he possesses with the language in question, in orthography, grammar, and punctuation.

ART. 10. The examination upon the acquirements of the candidate having been completed, the examiners shall proceed to inquire into his capacity for teaching; they shall question him as to the manner of teaching children to know the letters, figures, and the first principles; then reading, writing, and arithmetic.

They shall then require him to relate some story or portion of history, in order to discover the degree of talent he possesses to present things to children with clearness and precision; care shall be taken, if there be a convenient opportunity, and if it be thought advisable, to have some children present, of different ages and of different degrees of attainment, in order to ascertain more particularly his skill in practical teaching.

ART. 11. Finally, the examiners shall propose some questions upon the principles to be followed in rewards and punishments; as also in general on the best methods to be adopted, not only to develop and cultivate the intellectual faculties of children, but, most especially, to bring them up in the exercise of the Christian virtues.

ART. 12. When the examination is concluded, the examiners shall deliver to the candidate, who desires to obtain a general admission as master, and has given proof of sufficient ability, a deed of that admission, according to the extent of his ability; and in this shall be stated, as distinctly as possible, the extent and the nature of the talent and of the acquirements of the candidate, as proved by his examination; and it shall declare the rank he has obtained, if it be in the first, second, third, or fourth class, and consequently such a general admission as shall give him a right to apply for the situation of a master, according to the rank which has been assigned to him. Finally, the said deed shall declare the branches of education, and the languages for which he shall have obtained the general admission.

ART. 13. The schoolmistresses or teachers of languages who shall have passed an examination, and have given sufficient proofs of their ability, shall also receive a deed which shall contain, besides a declaration of the extent and amount of their acquirements and talents, as proved by the examination, a general admission, either for the office of schoolmistress or teacher of languages

That deed shall moreover expressly declare the branches of study and the languages which the person examined shall be entitled to teach.

ART. 14. All the deeds mentioned in the two preceding articles shall be alike throughout the whole extent of the republic, both in the matter and the form. If they are issued by a provincial board of education, they shall be signed by the president and secretary, and the seal of the board shall be affixed to them. The deeds issued by an inspector, or by a local board, shall be signed by the inspector only, or by the secretary of the local board.

ART. 15. The certificates for the first and second class, issued by a provincial board, shall entitle those who obtain them to be masters in all primary schools, public as well as private, of the two classes, in all places throughout the republic without exception; whereas the deeds issued by a local board shall confer no privilege beyond that locality.

ART. 16. The certificates for the third class, as well as those for the fourth, or lowest class, shall confer no privilege of becoming teachers, except in schools established in places whose wants are proportioned to the rank and capacity of such masters, and which are situated within the jurisdiction of the provincial board.

ART. 17. In order that the provisions contained in the two preceding articles may be more easily carried into effect, the schools in small towns and less considerable places, more fully described in Art. 9, of Regulation A., shall be classed by the different inspectors, and by the provincial boards, into *higher*, *middle*, and *lower* schools, upon a principle hereafter provided. This classification, which shall be submitted to the provincial authorities for approval, shall be solely for the purpose of preventing the principal schools falling into the hands of incompetent masters; while, at the same time, it leaves the power of placing a very able master over the smallest school.

ART. 18. In the towns, or places of greater importance, described more fully in Art. 10, of Regulation A., no master of the fourth, or lowest class, shall be eligible to either a public or a private school. The local boards are even recommended to take care, as much as possible, that the tuition in the schools of their towns shall not be intrusted to any other than *masters of the first or second class*.

ART. 19. The deed to be delivered to the masters of the first class, shall bear the title, *par excellence*, of COMPLETE CERTIFICATE. It shall not be granted to any one who has not attained the age of twenty-five;* the greatest strictness must be observed in granting this certificate, which shall be distinguished from all the others, in form as well as in the terms in which it is drawn up.

ART. 20. The value of the *Complete Certificate*, delivered in terms of the preceding conditions, shall be settled for each province by the local regulation; with this proviso, that the possessors of such certificates shall be entitled to examination gratis, when they are desirous of undergoing one, in order to avail themselves of the privileges belonging to them.†

ART. 21. The deeds of general admission, qualifying for the situation of

* The age at which each of the three other ranks may be obtained were subsequently fixed as follows: the second class at twenty-two years of age, the third class at eighteen, and the fourth class at sixteen.

† This temporary article has been long since abolished.

schoolmistress or teacher of languages, shall only be valid within the limits of the jurisdiction of those by whom they have been issued.

ART. 22. A deed of general admission as teacher, of whatever rank, shall confer the privilege upon the holder, of becoming a candidate for a call, nomination, or special appointment, either as a master, or a teacher of languages. But a general admission as teacher of languages, on the contrary, shall give no right to the holder to become a candidate for a call, nomination, or special appointment as a master, unless a general admission as master shall also have been obtained.

ART. 23. Masters of the three lower classes shall be at liberty to apply at any time to the board of education of the province in which they reside to be admitted into a higher class, by undergoing a fresh examination; and the most distinguished individuals in the two lower classes, shall be invited and encouraged by the school inspector of the district, or by the local school board, to come forward at the expiration of every two years to be again examined before the provincial board, until they shall have obtained a certificate as master of the second class; and on each occasion a new certificate shall be delivered to them, according to the higher rank to which they shall have been raised.

ART. 24. A list containing the name, the rank, the nature, and the extent of the abilities of each of those who shall have obtained deeds of general admission as master, mistress, or teacher of languages, shall be published through the medium of the periodical work, intitled "*Bydragen tot den Staat*," &c.* The mistresses of schools for very young children shall not be included in this list.

ART. 25. Those who shall have obtained a general admission as master, of whatsoever rank or kind it may be, must undergo a second examination or comparative trial, when they are candidates for a call, nomination, or special appointment, and that comparative trial shall take place, either before the local school board, or before some other board or persons duly authorized for the purpose by those who have authority to appoint them.

ART. 26. The provincial and municipal authorities shall fix the payments to be made for the examinations; but in such a manner,—

1. That there shall be an increase in the rate payable for each new class, and that a due proportion shall be observed in the fees to be exacted from the different ranks of schoolmasters, schoolmistresses, and teachers of languages.

2. That if a person shall have paid the fee for the lower class of schoolmaster, when he obtains a higher rank, he shall not pay more in addition, than the difference between the fee for the lower class, and that for the higher class into which he has been admitted.

3. That if a teacher of languages shall obtain any rank as a master, he shall be considered as having thus far paid nothing toward the fee.

4. That those who, according to the preceding laws for the regulation of schools, shall have passed an examination for which they have paid the fee, and shall undergo a new examination in order to obtain rank, of whatever degree, shall not pay more than the difference between the amount payable for the higher rank and their former payment. All those who shall have obtained a complete certificate, are exempted from this provision.

5. That the fees paid for examinations which have taken place before the

* This useful compilation continues to the present day.

school inspector of the district shall be paid over to the fund for the respective boards of education.

ART. 27. The Grand Pensionary reserves to himself the right to interpret, restrict, or extend the present regulation, as it shall appear to him to be useful and necessary.

REGULATION C.

Instruction for the School Inspectors, and for the boards of education in the different provinces of the Batavian Republic.

ARTICLE 1. The school inspectors shall take the utmost care that the education of the young be conducted upon an uniform system, improved, and rendered more directly and more generally useful; that the masters be really capable of imparting instruction of that nature; that their zeal be encouraged, their merit rewarded, and their condition improved; that the measures taken, or to be taken, relative to primary education be duly notified and carried into execution; that all obstacles which may present themselves be removed with prudence, in order that the improvement of primary instruction in general, may be brought before the public in an advantageous light; all in conformity with the following provisions.

ART. 2. Each inspector shall make himself acquainted with the number and situations of the primary schools, and also with the state of primary instruction throughout the whole extent of his district. It shall be his duty to see that, besides the necessary number of ordinary schools, there shall be a sufficient number of schools for children of tender age, organized in the best possible manner, and also schools of industry. Finally, he shall take care, that proper instruction in all branches of primary education may be obtained, according to the circumstances and wants of the different parishes.

ART. 3. He shall make it his business to become personally acquainted with the different masters in his district, and with extent of their fitness, and shall keep a note thereof. He shall be at all times accessible to those who think they require advice and explanations from him, concerning their duties: in particular cases he may require them to appear before him in person, or to address him in writing, when he shall deem it necessary.

ART. 4. He shall make it his special business to excite and maintain the zeal of the masters; and for that purpose, he shall at fixed periods require a certain number of them to meet him, either at his own house or in other parts of his district, and as frequently as possible. On these occasions, he shall converse with them on the object and nature of the important duties confided to them, and upon the best method of fulfilling them faithfully and usefully for the children.*

ART. 5. The inspector shall be bound to visit twice a year, all the schools in his district, which are directly subject to his supervision. He is hereby exhorted to repeat those visits at different times, either when a particular case calls for it, or for the general good, and as often as he can do so without imposing too heavy a duty upon himself. He shall inspect the other schools in his district from time to time; but if these schools are under any particular superintend-

* In compliance with the spirit of this article, societies of schoolmasters have been formed, under the auspices of the inspectors, at different times, in the districts of each province, which keeps up a rivalry of improvement. They meet at stated times, generally every month.

ence, he shall not visit them without having had due communication with the persons who are so charged with them.

ART. 6. In visiting the schools which are under his direct supervision, he shall call upon the master to teach the pupils of the different classes in his presence, those which are in different stages of progress, in order that he may judge as to the manner in which the instruction is given and regulated. He shall also inquire if the regulations concerning primary instruction, as well as the regulation for the internal order of the school, are duly observed and executed; and he shall pay attention to every thing which he believes to be of any importance. At the conclusion of the visit, the inspector shall have a private conversation with the master or mistress, upon all he has observed; and, according as the case may be, he shall express approbation, give them advice, admonish, or censure them, upon what he may have seen and heard. Every school inspector shall keep notes of all remarks and observations which he shall have made in the course of his visits, to be used in the manner hereinafter provided.

ART. 7. In his visits to the other schools, the inspector shall not communicate to the master the remarks and reflections he may have had occasion to note down, but shall with due discretion communicate them either to the local board or to the particular parties intrusted with their superintendence, according to the nature of the school.

ART. 8. In all matters relating to the welfare of the schools, in which the inspectors may stand in need of the assistance or coöperation of the civil power, they shall apply to the local authorities, either provincial or national, according to the nature of the business.

ART. 9. They shall pay particular attention to improve the school-rooms; to the education of the children of the poor, and especially in the villages and hamlets; to regulate and improve the incomes of the masters; and to the schools being kept open and attended without interruption, as much as possible, during the whole year. They shall for that purpose make the necessary representations to the constituted authorities, or to the persons who have power to take the necessary measures for that end; conforming, moreover, in all the provisions contained in the present and the preceding Article, to what has been declared in Art. 5, of the law.

ART. 10. They shall take care that before any master enters upon his office, he be provided with the required license of appointment, and they shall require him to produce at the same time the documents which were necessary for obtaining the special nomination. As regards the annual renewal of the patent, the persons appointed by the law for that purpose shall look after it.*

ART. 11. Although every school inspector be authorized in the cases, and in the manner provided by Art. 9, of Regulation A., to depute the local inspection of one or more schools to one or more persons, he shall nevertheless be held fully responsible for those schools and for the education which is given in them. He shall be bound to fulfill in person the essential duties of his office as regards those schools. The appointment of the local inspectors is merely to aid and relieve him in the discharge of his duties.

ART. 12. Being a member of every local school board established in his dis-

* Long since become obsolete.

trict, the inspector must receive notice of all their meetings, and he must attend them as often as possible, and especially on those occasions when candidates are to be examined.

He shall have access to all the schools subject to the inspection of the local boards, but he shall not be entitled to preside at those meetings in virtue of his office, nor shall he, conjointly with the other members, take part in the inspection of any section or number of schools in the place, which are confided to the personal inspection of an individual of the board.

The other members of the local boards shall possess the same powers of inspection over the primary schools in the place, each in his particular section, in the same manner as the duties of inspection are intrusted individually to the school inspectors in those situations where no local boards exist; so that every thing contained in the first nine articles of the present regulation concerning school inspectors shall apply to the members of the local boards, subject only to the alterations that the different circumstances require.

ART. 13. The inspector shall endeavor, by all suitable means, and particularly by friendly communications with the local inspectors, and with the different members of the local school boards established in his district, to have the earliest and most correct information of all changes, and of all events of importance respecting the primary schools, which may occur in any part of his district; or of any thing relating to vacancies in the office of teacher, either by death, resignation, or other cause. He shall inform himself as to the nature of the schools; of the class to which they belong; of the emoluments; of the conditions attached to the situations; as also the names, qualifications, rank and talents of the persons who shall have received a call, nomination, or special appointment to fill the vacancies throughout his district.

ART. 14. The inspector shall send monthly to the Secretary of State for the Home Department, an accurate report of all vacancies in the office of teacher, and of all new appointments, (except what concerns the schools for children of tender age,) and of every detail mentioned in the preceding article, in order that such reports may be published, in so far as it shall be thought advisable, in the periodical work entitled "*Bydragen*," &c.

ART. 15. The inspectors shall take care, in the event of a vacancy in the office of inspector in any district, whether by resignation, death, or other cause, that all the papers and documents relating to it be delivered in good order to the person who shall succeed.

ART. 16. When any such vacancy shall occur, whether by death, resignation, or other cause, the inspection of the district shall be carried on until a successor is appointed, by one or more of the inspectors belonging to that provincial board, according to a temporary arrangement to be made by the said board on each vacancy, and approved of by the Secretary of State for the Home Department.

The parties discharging the duties of a vacant inspectorship shall be entitled to all the emoluments belonging to the office.

ART. 17. The recommendations for filling up vacancies among the school inspectors of a district shall in future be made by the respective boards of education, at their first meeting after the vacancy shall have occurred, and shall be transmitted to the provincial authorities; and if any circumstances shall prevent this being done, these shall be communicated to the said authorities during the session of the board

ART. 18. The ordinary meetings of the boards shall be held in the towns where the provincial authorities reside, at least three times a year; the one during Easter week, the other two in the second week of July and October. The particular days and hours shall be fixed by the boards themselves, who shall advertise them in the *Bydragen*.

ART. 19. Extraordinary meetings shall be held:

1. When required for one or more examinations. They shall be regulated as provided in the code of local regulations;

2. When specially ordered, either by the Secretary of State for the Home Department, or by the provincial authorities; and, in that case, the party calling the meeting shall defray all expenses, at a reasonable rate;

3. When the members consider it necessary or advisable to hold an extraordinary meeting; but it shall then be at their own expense.

ART. 20. All the members of the board shall be bound to be present at these meetings, and can only be excused by a case of urgent necessity.

ART. 21. The offices of president and secretary of the board shall be filled by all the members in rotation, but the length of service of any individual may be prolonged provided it be with his consent.

ART. 22. If the board shall be desirous of appointing to the office of secretary a person who is not a member of the board, the proposal shall be submitted to the provincial authorities, and the appointment shall be made by the Grand Pensionary. Nevertheless, such appointment shall not carry along with it any increase of the grant assigned to each board.

ART. 23. These meetings, both ordinary and extraordinary, shall not be dissolved, until all the business to be transacted, shall have been duly attended to.

ART. 24. At each ordinary meeting, each member shall give in a written report:—

1. Of the schools he has visited since the last meeting, stating the time of his visit, and the observations he then made regarding the state of the schools, in all the different particulars.

2. Of the meetings he has held of the schoolmasters for the purpose of communicating with them respecting their duties.

3. Of the examinations which have taken place before him of masters of the lowest class, and of the higher classes, by virtue of Art. 2, of Regulation B.; the whole accompanied by such particulars as shall be deemed of importance.

4. Of the changes and other events which shall have taken place in his district, relative to any school or schoolmaster, since the last meeting, and especially all vacancies of masterships, the delivery of deeds of call, nomination, or special appointment of every degree and of every class, setting forth the most important circumstances connected with them: the appointment of local inspectors in places of minor extent; the changes that may have occurred in the local school boards; the inspection of a new primary school or school of industry; the admission of any teacher of languages; the drawing up of any rules for the internal order of schools; the introduction of school-books, other than those contained in the general list of books, in the private schools of both classes; the measures that have been taken to regulate and improve the incomes of the masters; the measures that have been taken to secure the schools being uninterruptedly kept open and attended; any difficulties they may have encountered; the encouragement or otherwise which the masters may have met

with; and the examinations of pupils in the schools. The inspector shall further point out the particular parts which he wishes to have inserted in the above mentioned monthly publication *Bydragen*.

ART. 25. From these written documents and other private information, as well as from the written reports of the local school boards, (as mentioned in the following article,) every school inspector shall draw up annually, previous to the meeting held in Easter week, a general report on the state of the schools and of primary instruction throughout his district. He shall state therein the reasons why he has not visited, or has not visited more than once, any particular school in the course of the preceding year. He shall state such proposals as appear to him deserving of attention, and which may tend to the improvement of primary instruction.

That general report, together with the ordinary written reports of the past month, shall be presented to the meeting which is held after Easter.

ART. 26. In order that the school inspectors may not omit to mention in their annual report any of the particulars stated in the preceding article, the local school boards or their individual members, in so far as concerns the schools placed under their individual inspection, shall draw up a report in writing, similar to that required from the school-inspectors, before the end of February, at latest.

This report shall also contain every particular relating to the schools; it shall be presented to a meeting of the local board, and shall be transmitted afterward to the inspector of the district, to be used by him for the before-mentioned purpose.

ART. 27. From these annual reports of the different members of the respective provincial boards, each of them shall draw up a brief and general summary of the state of the schools and of primary instruction throughout his province; and two copies shall be made thereof.

ART. 28. At the end of the ordinary meeting the provincial boards shall forward, or cause to be forwarded, to the Secretary of State for the Home Department, within fifteen days:—

1. An authentic extract from the minutes or proceedings of that meeting, and of any extraordinary meetings that may have been held;
2. The original written reports delivered in by each member;
3. A list of the persons who shall have been examined during the sitting of the board, ordinary and extraordinary, stating the results of the examinations, and particularly the ranks which the different persons shall have obtained, in order that publication may be made of all that shall be considered necessary to be made public in the periodical work intitled *Bydragen*.

ART. 29. At the conclusion of the ordinary meeting held in Easter week, each board shall forward, or cause to be forwarded within the space of four weeks, to the Secretary of State for the Home Department, besides the documents mentioned in the preceding article,—

1. One of the two authentic copies of the annual general summary.
2. The originals of the general reports of the different members of the boards.
3. The originals of the annual written reports of the different local boards.
4. A detailed statement, taken from the report of each of the members of the proposals which each board shall be desirous of bringing under the considera-

tion of the next annual general meeting, or which it has been resolved to lay before the provincial authorities.

ART. 30. A similar authentic copy of the annual general summary shall be forwarded by the board, within the same period to the provincial authorities. All the other documents shall in like manner be laid before the provincial authorities, if required, or the member of the provincial government specially intrusted with the care of the primary schools and of primary instruction. For that purpose, all the original documents forwarded to the Secretary of State for the Home Department, namely, the different written reports of the several inspectors, their annual reports, and the annual reports of the different local boards, shall be returned to the member who officiated as secretary at the last meeting, after the purpose for which they are sent to the Secretary of State shall have been served; and within the period of two months at the latest, after their receipt: and these documents shall be afterward deposited among the papers of the respective boards.

ART. 31. The Grand Pensionary reserves to himself the right to interpret, restrict, and extend the present regulation in such manner as he shall deem advisable.

In conformity with Article 21, of the law, which is placed at the head of the present decree, the Grand Pensionary shall give public notice of the period when all former statutes, ordinances, laws, and regulations, touching the government of schools, shall be repealed and made of non-effect; and more particularly the decree of the 29th July, 1803, as well as all regulations, general and particular, which were founded upon it.

In conformity therewith, we ordain and enjoin, that the present law shall be published and fixed up in all places which it concerns, and order that all whom it concerns do see that it be fully carried into execution.

Given at The Hague, the 3d of April, 1806.

(Signed) R. J. SCHIMMELPENNINCK,
Grand Pensionary.

And, by order, The General Secretary of State,
(Signed) C. G. HULTMAN

The superiority of public elementary instruction in Holland, is attributed, by her own educators, and by intelligent foreigners, who have visited her schools in the rural districts, as well as in the large towns, to that system of special inspection, combined with specific and enforced preparation of all candidates for the office of teacher, and subsequent gradation of rank and pay, according to character and skill, which has now been in operation nearly half a century, ever since the first school law of the Batavian Republic, in 1806, drawn up by that wise statesman, M. Van der Palm. The following extracts will give at once this testimony, and an intelligent account of the system of inspection.

Baron Cuvier, in his "*Report to the French Government on the establishment of Public Instruction in Holland*," in 1811, after speaking with special commendation of the system of inspection, remarks :

"The government is authorized to grant to each province a certain sum to meet the compensation, and the expenses of travel, and meeting of the inspectors. The mode of choosing them is excellent; they are taken from clergymen, or laymen of education, who have signalized themselves by their interest in the education of children, and skill in the local management of schools; from the teachers who have distinguished themselves in their vocation; and in the large towns, from the professors of the Universities and higher grade of schools."

Mr. W. E. Hickson, now Principal of the Mechanics Institute in Liverpool, in an "*Account of the Dutch and German Schools*," published in 1840, remarks :

"In Holland, education is, on the whole, more faithfully carried out than in most of the German States, and we may add that, notwithstanding the numerous Normal Schools of Prussia, (institutions in which Holland, although possessing two, is still deficient,) the Dutch schoolmasters are decidedly superior to the Prussian, and the schools of primary instruction consequently in a more efficient state. This superiority we attribute entirely to a better system of inspection. In Prussia, the inspectors of schools are neither sufficiently numerous, nor are their powers sufficiently extensive. Mr. Streiz, the inspector for the province of Posen, confessed to us the impossibility of personally visiting every one of the 1,635 schools in his district, and admitted that he was obliged, in his returns, to depend to a great extent upon the reports of local school committees. In Holland, inspection is the basis upon which the whole fabric of popular instruction rests.

The constitution of the Board is well worthy of attention; there can be no judges of the qualifications of teachers equal to those whose daily employment consists in visiting schools, and comparing the merits of different plans of instruction. But the power given to the inspector does not end here: by virtue of his office he is a member of every local board, and when vacant situations in schools are to be filled up, a new examination is instituted before him into the merits of the different candidates. It is upon his motion that the appointment is made, and upon his report to the higher authorities a master is suspended or dismissed for misconduct. Through his influence children of more than ordinary capacity in the schools he visits, are transferred, as pupils, to the Normal Schools, in order to be trained for masters; and through his active agency all improved plans or methods of instruction are diffused throughout the various institutions of the country."

M. Cousin, in a Report to the minister of Public Instruction in France, in 1836, "*on the state of Education in Holland*," while giving a preference to the school law of Prussia, in its provision for Normal Schools, and the classification of public schools, and especially for the support of the higher class of primary schools, assigns the palm to Holland, in the matter of school inspection.

"The provincial boards of primary instruction, with their great and various powers, constitute, in my mind, the chief superiority of the Dutch over the Prussian law. They resemble the *Schul-collegium*, which forms a part of every provincial consistory in Prussia; but they are far better, for the *Schul-collegium* is not composed of inspectors. It sends out some of its members to inspect, as occasion requires, but inspection is not its function. It judges from written documents, and not from ocular proof, and is generally obliged to rely upon the sole testimony of the member sent to inspect; whereas in Holland, the board, being both inspectors and judges of inspections, are on the one hand better judges, in consequence of the experience they have acquired in a constant routine of inspection; and, on the other hand, they are better inspectors, by what they learn at the board, when acting as judges and governors, a combination eminently practical, and uniting what is almost every where separated.

* * * * *

Every inspector resides in his own district, and he is bound to inspect every school at least twice a year, and he has jurisdiction over the primary schools of every grade within the district. Without his approval no one can either be a public or a private teacher; and no public or private teacher can retain his situation, or be promoted, or receive any gratuity; for no commissioner has any power in his absence, and he is either the chairman or the influential member of all meetings that are held. He is thus at the head of the whole of the primary instruction in his particular district. He is required to repair three times a year to the chief town of the province, to meet the other district inspectors of the province, and a conference is held, the governor of the province presiding, which lasts for a fortnight or three weeks, during which time each inspector reads a report upon the state of his district, and brings before the meeting all such questions as belong to them. As each province has its own particular code of regulations for its primary schools, founded upon the law and its general regulations, the provincial board examines whether all the proceedings of the several inspectors have been conformable to that particular code; they look to the strict and uniform execution of the code; they pass such measures as belong to them to originate, and they draw up the annual report which is to be presented to the central administration, and submit such amendments as appear to them necessary or useful, and of which the central administration is constituted the judge. Under the Minister of the Interior there is a high functionary, the Inspector-general of Primary Instruction; and from time to time a general meeting is summoned by the government, to be held at the Hague, to which each provincial board sends a deputy; and thus, from the Inspector-general of the Hague, down to the local inspector of the smallest district, the whole of the primary instruction is under the direction of inspectors. Each inspector has charge of his own district, each provincial board has charge of its province; and the general meeting, which may be called the assembly of the states-general of primary instruction, has charge of the whole kingdom. All these authorities are, in their several degrees, analogous in their nature; for all are public functionaries, all are paid and responsible officers. The district-inspector is responsible to the provincial Board of Commissioners; and they are responsible to the Inspector-general and the Minister of the Interior. In this learned and very simple hierarchy the powers of every member are clearly defined and limited."

Mr. George Nicholls, in a "*Report on the condition of the Laboring Poor in Holland and Belgium*," to the Poor Law Commissioners of England, in 1838, remarks:

"The measures adopted in Holland to promote the education of all classes.

have apparently resulted from the conviction that the moral and social character of the people, their intelligence, and their capacity for increasing the resources of the country, must in a great measure depend upon the manner in which they are trained for the fulfillment of their several duties. The state has not rendered education actually obligatory upon the municipalities, neither has it required evidence of the education of the children of the poorer classes by any educational test; for a sense of the importance of education pervades the entire community—it is sought by the poor for their children, with an earnestness similar to that observed in the more wealthy classes in other countries; and in Holland, the direct interference of government is confined to regulating the mode of instruction, by means of an organized system of inspection.

This system, however much it may interfere with the liberty of the subject, has certainly some advantages. The poor, who have no means of judging for themselves, have, in the certificate given to every schoolmaster, some sort of guarantee that the person to whom they send their children is not an ignorant charlatan, professing to teach what he has never learned, and in the next place it secures to those who devote themselves to the profession a much higher rate of remuneration than they would receive if, as with us, every broken-down tradesman could open a school when able to do nothing else. This exclusion of absolute incapacity is also a means, and a very powerful one, of raising the character of the profession in popular estimation. With us, any man can become a schoolmaster, as easily as he can a coal-merchant, by simply putting a brass plate on his door; but in Holland, (and the same system is very general in Germany,) some degree of study is rendered indispensable, and the whole class, therefore, stand out from the rest of the community as men of superior attainments, and enjoy that consideration which men of cultivated minds everywhere command, when not surrounded by coadjutors below rather than above the common level.

In Holland, there is no profession that ranks higher than that of a schoolmaster, and a nobleman would scarcely, if at all, command more respect than is paid to many of those who devote their lives to the instruction of youth. The same personal consideration is extended to the assistant teacher or usher. We were much struck with the difference in the position of persons of this class abroad, from their lot at home, when we were visiting a school for the middle classes at Hesse-Cassel. The school contained 200 children, and was supported partly by the town and the government, and partly by the payments of the scholars. The charge for daily instruction was from 1s. 8d. to 5s. per month. The children were distributed in six classes—to each class a separate master or assistant teacher. We were conducted over the establishment by the head master or director of the school, and the first thing which drew our attention was the extreme ceremony with which we were introduced to each of the assistant masters, and the many apologies made by the professor for interrupting them, although but for a moment, in their important labors. We saw those treated as equals, who are in England often estimated as only on a rank with grooms or upper servants.

The most important branch of administration, as connected with education, is that which relates to school inspection. All who have ever been anxious either to maintain the efficiency of a school, or to improve its character, will appreciate the importance of the frequent periodical visits of persons having a knowledge of what education is, and who are therefore able to estimate correctly the amount and kind of instruction given. Let a school established by voluntary subscriptions be placed to-day upon the best possible footing, if no vigilance be exercised by its founders, and if the master be neither encouraged nor stimulated to exertion by their presence, his salary will speedily be converted into a sinecure, and the school will degenerate to the lowest point of utility."

Professor Bache, in his "*Report on Education in Europe*," in 1838, to the Trustees of Girard College, remarks:

"The system of primary instruction in Holland is particularly interesting to an American, from its organization in an ascending series; beginning with the local school authorities, and terminating, after progressive degrees of representation, as it were, in the highest authority; instead of emanating, as in the centralized systems, from that authority. A fair trial has been given to a system

of inspection which is almost entirely applicable to our country, and which has succeeded with them."

The school system of Holland consists of a brief law, of only twenty-three articles, drawn up by M. Van der Palm, the distinguished Oriental scholar, in 1801, and modified by M. Van der Ende, in 1806, and a series of Regulations drawn up by the state department having charge of this subject, to carry out the provisions of the law. The law was so wisely framed, and was so well adapted to the spirit, customs and habits of the people, that it has survived three great revolutions: first, that which converted the Batavian Republic into a kingdom, at first independent, but afterward incorporated with the French empire; next, that which dethroned Louis, restored the house of Orange, and united Holland and Belgium in one monarchy; and lastly, the revolution which again separated the two countries, and restricted the kingdom of the Netherlands to its former limits. During these thirty years, the law of 1806 was never interfered with; it could only be altered by another law, and when the government, in 1829, in order to please the Belgian liberal party, brought forward a new general law, which made some very objectionable changes in that of 1806, the chambers resisted, and the government were obliged to withdraw the bill.

The following provisions will show the spirit and scope of the law, and general regulations.

IX. "The school inspector of the district is authorized, in concert with the local authorities, to intrust one or more known and respectable persons with a local inspection, subordinate to his own, over the school or schools, and also over all the teachers of both sexes in the place, whether village, hamlet, or otherwise, and for each separately.

X. In all the more considerable towns and places, the parochial authorities, in concert with the school inspector of the district, shall establish a local superintendence of the primary schools, which shall consist of one or more persons, according to local circumstances, but so as each member shall have a particular division, and all the schools in that division shall be confided to him individually. These persons shall collectively constitute, with the school inspector of the district, the local school board.

XVII. No one shall be allowed to become a candidate for a vacant school, or to establish a new one, or to give private lessons, without having first obtained a certificate of general admission. In like manner, no one shall be allowed to teach any other branch than that for which he shall have received a certificate of general admission.

XXII. The instruction shall be conducted in such a manner, that the study of suitable and useful branches of knowledge shall be accompanied by an exercise of the intellectual powers, and in such a manner that the pupils shall be prepared for the practice of all social and Christian virtues.

XXIII. Measures shall be taken that the scholars be not left without instruction in the doctrinal creed of the religious community to which they belong; but that part of the instruction shall not be exacted from the schoolmaster.

XXX. The provincial* and parochial authorities are recommended to take the necessary steps:

*The constitution of Holland is somewhat singular, and would seem at first sight to be founded upon what perhaps may one day be recognized as the true theory of representative government, that of progressive, intermediate elections. The rate-payers elect the *Kiezers*, the *Kiezers* elect the *Raad* or town council, the town council elect a certain proportion of the members of the provincial governments, and the provincial governments elect the lower chamber of the *States General*, or House of Commons.

The *States-General* consist of two chambers. The upper chamber is somewhat of a House of Lords, but not hereditary. The members, fifty in number, receive 250*l.* per annum for traveling ex-

- 1. That the emoluments of the teacher (principally in rural parishes) be settled in such a way that his duties, when creditably performed, may obtain for him a sufficient livelihood, and that he be rendered as little dependent as possible, by direct aid, upon the parents of the children who frequent his school.
- 2. That attendance at the schools be strictly enforced, and that they be kept open throughout the year."

REGULATIONS RESPECTING THE EXAMINATION OF THOSE WHO DESIRE TO BECOME
TEACHERS OF PRIMARY SCHOOLS.

- I. The teachers shall be divided into four classes, or grades, according to the amount of knowledge required, and according to the examination which they shall have passed.
- VII. In these examinations, the object shall be to ascertain not only the extent of knowledge of the candidate in the branches he is proposing to teach, but also his power of communicating that knowledge to others, and especially to children.
- VIII. Before proceeding to the examination properly so called, the examiners shall endeavor to ascertain, in conversation with the candidate, his opinions on morals and religion; the sphere of his attainments, both with regard to the most indispensable parts of primary instruction, and to foreign languages and other branches which he proposes to teach; together with his aptitude to direct, instruct, and form the character of youth.
- IX. The subjects of examination shall be as follows:
 - 1. Reading from different printed and written characters; and whether with a good pronunciation and a proper and natural accent, and with a knowledge of punctuation.
 - 2. Some words and phrases designedly wrong shall be shown to the candidate, to ascertain his knowledge of orthography.
 - 3. To ascertain his acquaintance with the grammatical structure of the Dutch language, a sentence shall be dictated to him, which he shall analyze, and point out the parts of speech; and he must give proofs of a familiar acquaintance with the declensions and conjugations.
 - 4. The candidate shall write some lines in large, middle, and small hand, and shall make his own pens.
 - 5. Some questions in arithmetic shall be proposed to him, confining this especially to such as are of common occurrence, and which shall be sufficient to show the dexterity of the candidate in calculations, both in whole numbers and in fractions. Questions shall be put to him on the theoretical parts, and especially on decimal arithmetic.
 - 6. Some questions shall be proposed on the theory of singing.
 - 7. Different questions shall be proposed relative to history, geography, natural philosophy, mathematics, and such other branches of knowledge as the candidate proposes to teach.
 - 8. A passage in French, or in any other language in which the candidate wishes to be examined, shall be given to him to read and translate. A passage in Dutch shall be dictated to him, to be translated by him, either in writing or *viva voce*, into the language which forms the subject of the examination. He shall be required to give, *de improviso*, in the same language, a composition in the form of a letter or narrative, &c., all for the purpose of ascertaining the degree of acquaintance he possesses with the language in question, in orthography, grammar and punctuation.

penses. The lower chamber, before the Revolution, consisted of 110 members, now but of fifty-five. The provincial governments are :

North Brabant,	42 members.	Friesland,	54 members.
Guelderland,	90 "	Overyssel,	53 "
Holland,	90 "	Groningen,	36 "
Zealand,	46 "	Dreuthe,	24 "
Utrecht,	36 "		

The members of these provincial governments are not elected by the town councils, but by the nobility; the town councils, and Kiezers of the country districts, nearly in equal proportions. General business affecting more than one province, is referred to one or other of two committees, or provincial cabinets, elected by the members of the provincial governments. On these committees one member sits for each province

X. The examination upon the acquirements of the candidate having been completed, the examiners shall proceed to inquire into his capacity for teaching; they shall question him as to the manner of teaching children to know the letters, figures, and the first principles; then reading, writing, and arithmetic. They shall then require him to relate some story or portion of history, in order to discover the degree of talent he possesses to present things to children with clearness and precision; care shall be taken, if there be a convenient opportunity, and if it be thought advisable, to have some children present, of different ages, and of different degrees of attainment, in order to ascertain more particularly his skill in practical teaching.

XI. Finally, the examiners shall propose some questions upon the principles to be followed in rewards and punishments; as also in general on the best methods to be adopted, not only to develop and cultivate the intellectual faculties of children, but most especially to bring them up in the exercise of the Christian virtues.

XII. When the examination is concluded, the examiners shall deliver to the candidate, who desires to obtain a general admission as a master, and has given proof of sufficient ability, a deed of that admission, according to the extent of his ability; and in this shall be stated, as distinctly as possible, the extent and the nature of the talents and of the acquirements of the candidate, as proved by his examination; and it shall declare the rank he has obtained, if it be in the first, second, third, or fourth class, and consequently such a general admission as shall give him a right to apply for the situation of a master, according to the rank which has been assigned to him. Finally, the said deed shall declare the branches of education, and the languages for which he shall have obtained the general admission.

XIII. The schoolmistresses or teachers of languages who shall have passed an examination, and have given sufficient proofs of their ability, shall also receive a deed which shall contain, besides a declaration of the extent and amount of their acquirements and talents, as proved by the examination, a general admission either for the office of schoolmistress or teacher of languages. That deed shall moreover expressly declare the branches of study and the languages which the person examined shall be entitled to teach.

XIV. All the deeds mentioned in the two preceding articles shall be alike throughout the whole extent of the republic, both in the matter and the form. If they are issued by a provincial board of education, they shall be signed by the president and secretary, and the seal of the board shall be affixed to them. The deeds issued by an inspector, or by a local board, shall be signed by the inspector only, or by the secretary of the local board.

XV. The certificates for the first and second class, issued by a provincial board, shall entitle those who obtain them to be masters in all primary schools, public as well as private, of the two classes, in all places throughout the republic, without exception; whereas the deeds issued by a local board shall confer no privilege beyond that locality.

XVI. The certificates for the third class, as well as those for the fourth or lowest class, shall confer the privilege of becoming teachers, except in schools established in places whose wants are proportioned to the rank and capacity of such masters, and which are situated within the jurisdiction of the provincial board.

XVII. In order that the provisions contained in the two preceding articles may be more easily carried into effect, the schools in small towns and less considerable places, more fully described in Art. 9 of regulation A, shall be classed by the different inspectors and by the provincial boards, into higher, middle, and lower schools, upon a principle hereafter provided. This classification, which shall be submitted to the provincial authorities for approval, shall be solely for the purpose of preventing the principal school falling into the hands of incompetent masters; while, at the same time, it leaves the power of placing a very able master over the smallest school.

XVIII. In the towns or places of greatest importance, no master of the fourth or lowest class shall be eligible to either a public or a private school. The local boards are even recommended to take care, as much as possible, that the tuition in the schools of their towns shall not be entrusted to any other than *masters of the first or second class.*

XXIV. A list containing the name, the rank, the nature, and the extent of

the abilities of each of those who shall have obtained deeds of general admission as master, mistress, or teacher of languages, shall be published in the periodical work entitled 'Bydragen tot den Staat,' &c., (which is still published.)"

It is impossible not to see that the stimulating effect of a series of examinations of this character, before a tribunal composed of qualified judges, must produce a class of teachers for the work of primary instruction unequalled in any other part of the world. But the soul of the whole system is *inspection*, or in other words, active and vigilant superintendence,—intelligent direction, and real responsibility,—all of which are involved in the system of inspection carried out in Holland. Without inspection there can be no competent tribunal for the examination of teachers; without inspection, local school committees and conductors of schools would be irresponsible to public opinion, inert and negligent; without inspection there would be no person constantly at hand sufficiently informed upon the state of education to suggest the measures required for the promotion of its objects; without inspection there would be no diffusion of new ideas, no benefiting by the experience of others, no rivalry in improvement, no progress. The following extracts will show the manner in which the duties of inspection are provided for.

REGULATIONS FOR SCHOOL INSPECTORS, AND FOR THE BOARDS OF EDUCATION IN THE DIFFERENT PROVINCES.

II. "Each inspector shall make himself acquainted with the number and situations of the primary schools, and also with the state of primary instruction throughout the whole extent of his district. It shall be his duty to see that, besides the necessary number of ordinary schools, there shall be a sufficient number of schools for children of tender age, organized in the best possible manner, and also schools of industry. Finally, he shall take care, that proper instruction in all branches of primary education may be obtained, according to the circumstances and wants of the different parishes.

III. He shall make it his business to become personally acquainted with the different masters in his district, and with the extent of their fitness, and shall keep a note thereof.

IV. He shall make it his special business to excite and maintain the zeal of the masters; and for that purpose, he shall at fixed periods require a certain number of them to meet him, either at his own house or in other parts of his district, and as frequently as possible.*

V. The inspector shall be bound to *visit twice a year* all the schools in his district, which are directly subject to his supervision. He is hereby exhorted to repeat those visits at different times, either when a particular case calls for it, or for the general good.

VI. In visiting the schools which are under his direct supervision, he shall call upon the master to teach the pupils of the different classes in his presence, those which are in different stages of progress, in order that he may judge as to the manner in which the instruction is given and regulated. He shall also inquire if the regulations concerning primary instruction, as well as the regulation for the internal order of the school, are duly observed and executed; and he shall pay attention to every thing which he believes to be of any importance. At the conclusion of the visit, the inspector shall have a private conversation with the master or mistress, upon all he has observed: and according as the case may be, he shall express approbation, give them advice, admonish, or censure them, upon what he may have seen or heard. Every school inspector

* In compliance with the spirit of this article, societies of schoolmasters have been formed, under the auspices of the inspectors, at different times, in the districts of each province, which keep up a rivalry of improvement. They meet at stated times, generally every month

shall keep notes of all remarks and observations which he shall have made in the course of his visits, to be used in the manner hereinafter provided.

IX. They shall pay particular attention to improve the school-rooms; to the education of the children of the poor, and especially in the villages and hamlets; to regulate and improve the incomes of the masters; and to the schools being kept open and attended without interruption, as much as possible, during the whole year.

XVIII. The ordinary meetings of the boards shall be held in the towns where the provincial authorities reside, at least three times a year; the one during Easter week, the other two in the second week of July and October.

XXIV. At each ordinary meeting, each member shall give in a written report:—

1. Of the schools he has visited since the last meeting, stating the time of his visit, and the observations he then made regarding the state of the schools, in all the different particulars.

2. Of the meetings he has held of the schoolmasters for the purpose of communicating with them respecting their duties.

3. Of the examinations which have taken place before him of masters of the lowest class, and of the higher classes.

4. Of the changes and other events which shall have taken place in his district, relative to any school or schoolmaster, since the last meeting, and especially all vacancies of masterships, the delivery of deeds of call, nomination, or special appointment of every degree and of every class, setting forth the most important circumstances connected with them: the appointment of local inspectors in places of minor extent; the changes that may have occurred in the local school boards; the inspection of a new primary school or school of industry; the admission of any teacher of languages; the drawing up of any rules for the internal order of schools; the introduction of school books, other than those contained in the general list of books, in the private schools of both classes; the measures that have been taken to regulate and improve the incomes of the masters; the measures that have been taken to secure the schools being uninterruptedly kept open and attended; any difficulties they may have encountered; the encouragement or otherwise which the masters may have met with; and the examinations of pupils in the schools. The inspector shall further point out the particular parts which he wishes to have inserted in the above mentioned monthly publication, (*Bydragen*.)

XXV. From these written documents and other private information, as well as from the written reports of the local school boards, (as mentioned in the following article,) every school inspector shall draw up annually, previous to the meeting held in Easter week, a general report on the state of the schools and of primary instruction throughout his district. He shall state therein the reasons why he has not visited, or has not visited more than once, any particular school in the course of the preceding year. He shall state such proposals as appear to him deserving of attention, and which may tend to the improvement of primary instruction.

XXVI. In order that the school inspectors may not omit to mention, in their annual report, any of the particulars stated in the preceding article, the local school boards, or their individual members, in so far as concerns the schools placed under their individual inspection, shall draw up a report in writing, similar to that required from the school inspectors, before the end of February at latest.

XXIX. At the conclusion of the ordinary meeting held in Easter week, each board shall forward, or cause to be forwarded within the space of four weeks, to the Secretary of State for the Home Department, besides the documents mentioned in the preceding article,

1. One of the two authentic copies of the annual general summary.

2. The originals of the general reports of the different members of the boards.

3. The originals of the annual written reports of the different local boards.

4. A detailed statement, taken from the report of each of the members, of the proposals which each board shall be desirous of bringing under the consideration of the next annual general meeting, or which it has been resolved to lay before the provincial authorities."

REGULATIONS RESPECTING THE GENERAL ORDER TO BE OBSERVED IN THE PRIMARY SCHOOLS.

I. "The primary schools shall be open without intermission the whole year, except during the times fixed for the holidays.

II. During the whole time devoted to the lessons, the master shall be present from the beginning to the end; he shall not be engaged in any thing which is unconnected with the teaching, nor absent himself from school, except for reasons of absolute necessity.

III. The master shall take care that the pupils do not unnecessarily go out of school; and especially that they be quiet and attentive; and, when in the playground, that they always conduct themselves in a peaceable, respectable, and modest manner.

IV. When the number of pupils shall exceed seventy, measures shall be taken for providing a second master or an under master.

V. The pupils shall be entered, as much as possible, at fixed terms in the course of the year.

VI. At the opening and at the breaking up of each class, a Christian prayer, solemn, short, and suitable to the occasion, shall be said daily or weekly. At the same time, a hymn, adapted to the circumstances, may be sung.

VII. The pupils shall be divided into three classes, each of which shall have its distinct place; and on every occasion when the school meets, each shall receive the instruction that belongs to it.

VIII. The instruction shall be communicated simultaneously to all the pupils in the same class; and the master shall take care that, during that time, the pupils in the two other classes are usefully employed.

IX. The instruction in the different classes, and in the different branches taught, shall be as much as possible conveyed by the use of the black board.

X. When the master shall think it advisable, he shall reward the most advanced pupils by employing them to teach some parts of the lessons to the beginners.

XI. The master shall take care that the pupils be at all times clean in their dress, well washed and combed, and he shall at the same time pay the strictest attention to every thing that may contribute to their health.

XII. The school-rooms shall be at all times kept in proper order; for that purpose they shall be ventilated in the intervals of school hours, and cleaned out twice a week.

XIII. An examination of each school shall take place at least once a year. Upon that occasion the pupils of a lower class shall be passed to a higher; and as far as circumstances will allow, rewards shall be given to those who have distinguished themselves by their application and good conduct.

XIV. When a pupil at the end of the course of study shall leave the school, if he shall have distinguished himself by the progress he has made and by his good conduct, a certificate of honor shall be presented to him.

XV. A code of regulations shall be drawn up for each particular school, and this, whether written or printed, shall be pasted on a board, hung up in the room, and from time to time read and explained by the master.

XVI. The said codes shall be issued by the authorities over each school; their object shall be, to regulate the hours of teaching and how these shall be divided among the three classes."

As the masters were prohibited from teaching any particular religious doctrine in the schools, the government, through the Secretary of State for the Home Department, addressed a circular letter to the different ecclesiastical bodies in the country, inviting them to take upon themselves, out of school hours, the whole instruction of the young, either by properly-arranged lessons in the catechism, or by any other means. Answers were returned from the Synod of the Dutch Reformed church and other ecclesiastical bodies, assenting to the separation of doctrinal from the other instruction of the schools, and pledging themselves to extend

the former through their ministers of the different religious communions. On the reception of these answers, the government authorized the provincial boards of education :

“To exhort all schoolmasters to hand a complete list, every six months of the names and residences of their pupils belonging to any religious communion to such as should apply for it; and to take care that their pupils attend to the religious instruction provided for them.

To invite the governors of orphan asylums and workhouses, and similar establishments, to second the measures which the authorities of the communion shall take in reference to religious instruction.

To exhort the school inspectors, and through them the local school boards, to co-operate, as far as possible, with the consistories and ministers in their efforts to give instruction in the doctrines of their religion, so long as they confine themselves to their special province, and do not interfere with the business of the schools or the authority of the persons intrusted with their management by the government.”

Thus did the Batavian Republic provide that the children should be prepared for “*the exercise of all the social and Christian virtues* ;” well knowing, that if the schools did no more than impart a knowledge of the material world, there might be profound ignorance of the good and the beautiful, and of the true destiny of human nature.

On the practical operation of the provisions for religious and moral education, we adduce the following testimony. Mr. Kay remarks—

The law of 1801 proclaims, as the great end of all instruction, the exercise of the social and Christian virtues. In this respect it agrees with the law of Prussia and France; but it differs from the law of these countries in the way by which it attempts to attain this end. In France, and all the German countries, the schools are the auxiliaries, so to speak, of the churches; for, whilst the schools are open to all sects, yet the teacher is a man trained up in the particular doctrines of the majority of his pupils, and required to teach those doctrines during certain hours, the children who differ from him in religious belief, being permitted to absent themselves from the religious lessons, on condition that their parents provided elsewhere for their religious instruction. But, in Holland, the teachers are required to give religious instruction to all the children, and to avoid most carefully touching on any of the grounds of controversy between the different sects.

Mr. Nicholls says: “As respects religion, the population of Holland is divided, in about equal proportions, into Catholic, Lutheran, and Protestants of the reformed Calvinistic Church; and the ministers of each are supported by the state. The schools contain, without distinction, the children of every sect of Christians. The religious and moral instruction afforded to the children is taken from the pages of Holy Writ, and the whole course of education is mingled with a frequent reference to the great general evidences of revelation. Biblical history is taught, not as a dry narration of facts, but as a store-house of truths, calculated to influence the affections, to correct and elevate the manners, and to inspire sentiments of devotion and virtue. The great principles and truths of Christianity, in which all are agreed, are likewise carefully inculcated; but those points, which are the subjects of difference and religious controversy, form no part of the instructions of the schools. This department of religious teaching is confided to the ministers of each persuasion, who discharge this portion of their duties out of school; but within the schools the common ground of instruction is faithfully preserved, and they are, consequently, altogether free from the spirit of jealousy or proselytism. We witnessed the exercise of a class of the children of notables of Haarlem, (according to the simultaneous method,) respecting the death and resurrection of

our Saviour, by a minister of the Lutheran church. The class contained children of Catholics, Calvinists, and other denominations of Christians, as well as Lutherans, and all disputable doctrinal points were carefully avoided. The Lutherans are the smallest in number, the Calvinists the largest, and the Catholics about midway between the two; but all appear to live together in perfect amity, without the slightest distinction in the common intercourse of life; and this circumstance, so extremely interesting in itself, no doubt facilitated the establishment of the general system of education here described, the *effects of which are so apparent in the highly moral and intellectual condition of the Dutch people.*"

Baron Cuvier, in his report to the French government in 1811, says:

The means devised for the religious instruction of all persuasions are extremely ingenious, and at the same time highly appropriate, without involving them in dangerous controversy. The particular doctrines of each communion are taught on Sundays, in the several places of worship, and by the clergy. The history of the New Testament, the life and doctrines of Jesus Christ, and those doctrines in which all Christians agree, are taught in the schools on Saturdays, the day on which the Jews do not come to school, on account of their sabbath. But those truths which are common to all religions, pervade, are connected with, and are intimately mixed up with every branch of instruction, and every thing else may be said to be subordinate to them.

Mr. Chambers, of Edinburgh, in describing a visit to the public school of Rotterdam in the *Edinburgh Journal*, observes:

Instruction is given in reading, writing, arithmetic, geography, history of Holland, Bible history, and singing. I made inquiry of the head master, if any religious (dogmatic) instruction was given in the school, and he answered there was not. The children belong to different religious bodies and attend their respective clergymen on stated occasions, for instruction in the doctrines and principles of religion. The Bible history which is taught in the schools comprises only parts, in the truth of which all parties agree. The great regularity and silence which prevailed, the extent of the gratuitous instruction conferred, and the harmonious congregating together in one school of so many children of different religious creeds, were circumstances which I could not pass over unmoved; my only wish that the mass of my countrymen could conveniently have been introduced to enjoy the scene.

All the children of Holland may not, indeed, be at school at any given time, but every one goes to school at some time, and therefore there are none without education. This result is sensibly observed in the aspect of the Dutch towns. You see no bands of loose and disorderly children in the streets, such as offend the eye in the lower parts of almost every large town in Britain.

In all of the Dutch schools, habits of propriety, cleanliness, and order, are, not only in, but out of doors, strictly enforced, as well as practically illustrated in the manners of the teacher. Mr. Chambers quotes in a note the remark of a correspondent of the *London Standard*, that 'in no country is the mass of the people so religious, showing that the mode of education has not hurt religion.'

Mr. Arnold, Inspector of Schools in England, in his "*Report on Popular Education in France, Switzerland, and Holland*," in 1860, says:

I have seen no primary schools worthy to be matched, even now, with those of Holland. Other far more competent observers have come to the same conclusion. M. Cuvier has described the emotion of astonishment and delight with which, on his first entrance into one of them, he was struck. As he found the law in 1811, so M. Cousin found it in 1836; the same fruits it was bearing in 1836, it had been bearing in 1811; and for them he expressed the highest admiration. Such is the present excellent situation of primary instruction. In Prussia it may be even somewhat more widely diffused; but nowhere, probably, has it more thorough soundness or solidity.

REMARKS ON THE MIXED SCHOOL SYSTEM OF HOLLAND.

THE following remarks on the experience of Holland in attempting to exclude the peculiar teaching of different religious denominations are taken from Schmid's "Encyklopädie, &c.:"

The more decided the influence which the removal of the sectarian element from the public school must by degrees exert upon the national life, the more attentively should we study the experience of Holland in its system of mixed schools.

There still exists so little uniformity of opinion respecting the estimation that should be placed upon the regulations adopted since 1806, that during the last ten years, for the first time really, the subject has been warmly contested; and even through the Groenist opposition suffered in 1857 a decided defeat, yet that event did not decisively settle the question. In a contest like this the more rudely opinions clash, the more careful must we be not to lose sight of the actual working of the system. And should we find in its operation certain distinctly marked results presenting themselves, we still are met at once by the difficulty of separating the influence which the school exerts upon the life and upon the moral and religious character of the people, from the influence which is exerted by other causes. Moreover the space of three years is far too brief to enable us to estimate already the real influence of the law of 1857. It becomes necessary, therefore, to recur to the results of the period intervening between 1806 and 1856; this, however, will answer our purpose sufficiently, inasmuch as the same results, though more decided in degree, must be developed from the new condition of things.

Let us look at the circumstances to which the ordinance of April 3, 1806, owed its origin. Prior to that date, the Protestant influence in the Netherlands had possessed absolute control even over the schools, though during the eighteenth century respect for the opinions of the clergy had even here greatly declined. The deistical ideas which had become prevalent respecting Christian truth, acknowledged no occasion for the life which the church required nor for the regulations which the church laid down. The political movements of 1795, however, inaugurated an equality of rights to the small Roman Catholic population, and this minority could not protect itself more effectually than by sustaining a law which took from the public schools their original Protestant character, and banished from them the catechism and all sectarian instruction. A portion

of the population of the cities was but slightly effected by these measures; instruction was here obtained in a large degree at the private schools of the second class, which, as well as the many poor-schools (*Diakonie schuler*) of the church, and others, still for ten years longer preserved their sectarian position, and continued the use of the Bible and the practice of Christian admonitions. It was soon seen that this equality of parties existed only on paper, and that the reformed church hoped still to preserve for a long time its former ascendancy, principally by its instrumentality in the training of by far the greater portion of the teachers. This was also favored by the indifference of the popular feeling, at that time, to the movements of the church, while on the other hand there was on the part of many an earnest endeavor to effect a fusion, religious and civil, of the entire nation into one whole, in order to render the establishment of purely secular schools in the Netherlands not only possible but desirable.

But the principle that had been adopted, soon extended farther than the majority had expected. The development of the matter was somewhat as follows: The Bible at first still retained its place in the communal schools, and it was not till about the year 1816 that it began to disappear from them. Soon after the union of the Netherlands with Belgium, people were generally satisfied to have the Bible excluded from all save the evening schools. But when the evening schools also were attended by Catholic children, it became necessary that the Bible should give place here too, and it was permitted only once or twice a week to those who desired it, for a half or a quarter of an hour after the usual school hours. The reading of the Bible was to this extent restricted in the province of North Holland by a decree of the governor, in 1821. After 1830 there seems to have been a willingness to adopt a better course, as when in 1835 the provincial school committee of Gröningen directed in a circular to the teachers, that "the Bible ought to be read and explained catechetically, and exemplified by the teacher in his daily life." In 1842 attention was again called to this provision—but after this time, not the least mention is made of the use of the Bible; on the contrary, an ordinance was soon afterward issued by the governor of South Holland, forbidding the reading of the Bible "even in schools that were attended exclusively by Protestant children." If any teacher ventured to adopt a different course, it was always followed by unpleasant consequences. Thus in 1853 a teacher in the province of Utrecht was suspended by a decision of the provincial authorities "because he had used the Bible during the usual session of school as a reading book to read from to the school, and then for the purpose of explaining what had been read." The use of the Bible in school is still, at this day, to be met with only in exceptional instances, worthy of all commendation, in parishes that are wholly Protestant.

With Biblical history, the course of removal from the schools was more gradual. Opposition to this study commenced in 1830, at which time there were some Catholics, in South Holland, for example.

who made objections to the reading of the books of biblical history, that had been in use for years. Their demands were not immediately heeded, except that, in order to avoid ground for dispute, all explanation of the lesson was so far restricted that the benefit of the study was almost entirely lost. But this was not sufficient. In 1842, the bishop of the diocese, in an address to the provincial authorities, complained that the rights that had been assured to the Catholic population were violated by this instruction. Though this memorial also was followed by no public action on the part of the authorities, yet it hastened the desired removal. When it was not done voluntarily, a word of friendly council from the school superintendent, or from the mayor, sufficed. Thus in a parish of Gelderland, where among some 200 boys, there were fifteen or twenty Catholics, this study was given up at the request of the pastor. In other places the Catholic children were dismissed at the commencement of the exercise, and the mixed school thus immediately became Protestant in character. In 1853, a synodical committee of the reform church, in a report upon the condition of the churches, thus wrote; "It is well known that some civil authorities, and even superintendents of schools, in compliance with the demands of the Roman Catholic clergy, and in a spirit of perverted liberality, have requested, and in some cases, commanded the public teachers to discard the study of biblical history. * * * Hence the Christian element in the public schools has become weakened to an alarming extent." Biblical history is now to be met with only occasionally in the school-room, and when it is made use of, it is not regarded as a history of God's dealings with erring humanity, and as a mirror for the heart and life, but as a collection of biographies, and of examples worthy of imitation. The opinion is continually gaining ground that this branch of study should never be included in the public school course.

Though this result may be considered only as consequential, still it can not but be deplored most seriously, that under the name of the sectarian element, the hold of Christianity also upon the schools has been removed, and their condition in this respect, as plainly seen, is most sad.

As an acquaintance with the Holy Scriptures is most essential to the Protestant faith, so their removal from the schools is a dangerous attack upon our Protestant youth. The Bible has begun to be a strange book to the great majority of Protestants. Many suppose that it is impossible for them to understand it; others, that it is of value only to those who are theologians by profession; others again use it only in the church, for reference during service; the old family custom of beginning and closing each day with reading and meditating upon a portion of Scripture, is gradually passing away. No one therefore will wonder that more communities can be found, where for forty years nothing has been done toward imparting biblical instruction, than where it has received the attention it deserves. In regard to biblical history, we find a sad degree of ignorance, especially where it requires an understanding of the inti-

mate connection of events. We may thus account for the present imperfect and disconnected knowledge of the simplest Christian ideas, the more strange, inasmuch as formerly an intimate and practical acquaintance with religious subjects was general throughout our land. But not alone from the church do we hear a confirmation of these complaints; the preacher Van Koetsveld, writes: "The principles of Christianity in our public schools have been by degrees so supplanted by fiction and speculation, that, owing to the hostility of school committees and superintendents, it is now only here and there that, as a matter of favor, they have been suffered to remain." The synodical committee of 1856 make use of a similar expression; "one of the principal causes of these many deplorable evils, lies in the great want of sound and thorough religious information, and true Christian training. This want, which is to be met with not only among the humble, but also among the more respectable, and not unfrequently in the well educated members of society, is most intimately connected with the tendencies of our time." The same complaints, and with special reference to the schools, are made by that most zealous defender of the mixed school system, the editor of the "*Alarum*" (Wecker,) in considering the objection that might be made to his demand that biblical history should be retained in the mixed schools; he thus writes in the number for 30th April, 1857: "Are the teachers generally qualified to give the desired instruction in the manner which the public school requires? We can only answer this question in the negative. Where can young teachers now be found, who are so far advanced in the knowledge of biblical history, that they can use it for the purposes of school instruction? Look around you, and you will be convinced of the excessive ignorance upon this subject, that exists among our new teachers. How can a duty be devolved upon such teachers, for the performance of which they are wholly unprepared?" And again he says, upon the same subject; "We must assent to all these grievances, and mourn that biblical history is not at this time a subject of special study with those who are preparing themselves for an examination in the school branches. If, however, we inquire what has been done in regard to this by the school commission, the sad truth is seen prominently conspicuous. The school authorities themselves unfortunately share in the opinion that it is unnecessary to require of the teacher a special knowledge of biblical history, and the ability to make it accessory to a Christian education."

But the effect of the school law upon the study of national history is not to be overlooked. It is not, indeed, removed from the schools so generally as the other; still there is ground for much complaint. In the reading and text-books, as well as in oral instruction, pains are taken to clear our history of that which has given it the most of character and life—its Protestant element. In this way the youth have their fathers represented to them, not as they actually lived, believed, and acted, but as it might now be wished, for peace' sake, that they had lived, believed,

and acted. Thus in one school, this erroneous instruction is given ; in another, the subject is omitted entirely ; and almost everywhere in the mixed schools, text-books are used which conceal, or touch but lightly upon what has in fact laid the foundation of the progress and prosperity of our country. As an illustration from one of the most popular of these histories, (Kunivers'), the revolt against Spain is described as being simply and entirely political in its purpose, and the followers of Luther and Calvin, are represented as a sect dangerous to the peace of society, &c. Others do not go so far ; yet their statements make upon every one the impression that, in their opinion, the period in which our ancestors ascended the funeral pile and the scaffold, was one of which the pupils in the lower and intermediate schools should learn as little as possible. The truths upon which the foundations of our state rest, and which have preserved us from the fate of Spain and Italy, and have sealed an inviolable bond between our fatherland and Orange, these truths should be passed by without notice in the mixed schools ; they should read only of the distraction that accompanied the introduction of the new doctrines. Thus will the Christian Protestantism of the popular character be weakened, and, in its place, in regard to all Christian and ecclesiastical questions, there will be introduced a lukewarm liberalism, which will impress the stamp of imperfection and irresolution upon all legislative measures.

What has been substituted for the sound religious instruction of former times in the schools ? A conventional morality, a dry abstract of Christian ethics, as testified by Visser, a zealous champion of mixed schools, and superintendent in Friesland, who wrote as far back as 1821 ; "In the religious and moral training of most of the schools there is very much to be desired. On account of the banishment of the catechism and the prohibition of the unrestricted use of the Bible, many teachers have become of the opinion that henceforth every thing relating to the service of God must be excluded from the schools. Hence they have introduced, in place of what has been removed, a dry compilation of moral precepts, which are well adapted to train up the children to be theorists, but in no respect to make them practical people." And even this they teach from text-books prepared for the purpose. We have now almost achieved the result that was proposed by some one in 1827, that upon entering a school it should be impossible to determine whether the teacher were a Christian, a Jew, or a Turk. The school prayer at least would not betray the fact, in most cases. It is and must be so void of hue that many just omit it, and make amends by the singing of a song at the beginning and close of the school. Respecting the school books, pastor Nassau thus wrote in 1843 ; "There is good ground for complaint that many school-books propagate doctrines that are hostile to Christianity, and to the welfare of humanity. It is taught in these books that extraordinary happiness will attend good little children for their excellence, and evil, the naughty ones ; and that no good act indeed is so insignificant as not to bring with it its percentage of temporal happiness." Such facts accord perfectly with that

false view of the relations of Christian truth to our daily life, which prompted the following examination question, in Friesland, May 2, 1859: "What means would you use, in case you thought it befitting the teacher's calling, to assist to the extent of your ability in forming the moral character of your scholars?" How nearly must the Christian character of the school be lost, where the school authorities touch so doubtingly upon matters of the first importance?

We can not better conclude these remarks, and our criticism upon the mixed school system, than with the opinion expressed by the Netherland Teachers' Association, in December, 1858, at which time Hofstede de Groot, was still presiding officer: "the law of 13th of August, is in many respects a good law. Our approval, however, is considerably modified by the fact of its giving so little security to the principles of the Christian church. If the inspectors and superintendents are convinced of the necessity of those principles, it is still possible that their influence may be preserved,—but where this is not the case, it may speedily result in their utter extinction."—(*Communicated by an Evangelical Minister of Holland.*)

V. PROFESSIONAL TRAINING OF TEACHERS IN PENNSYLVANIA.

HISTORICAL DEVELOPMENT.

THE Normal School in Pennsylvania is the growth of many years, and of various suggestions and plans. The first attempt was an offshoot from the Normal and Model school of the British and Foreign School Society in London—the Model School in Chester Street, Philadelphia, having been established “in order to qualify teachers for the sectional schools (of Philadelphia) and for schools in other parts of the State,” under the direction and on the system of Joseph Lancaster, who was fresh from the mother school of the system in London. This Model School was in 1848 enlarged into a Normal School for female teachers for the Public Schools of the city.

In 1825, Walter R. Johnson, a native of Massachusetts, and at that date Principal of the Academy at Germantown, published a pamphlet of twenty-eight pages, entitled “*Observations on the improvement of Seminaries of Learning in the United States*,” in which he urges the establishment of “Schools for Teachers” as the most direct way of improving the quality of American Education. The outline of the organization and studies of such an institution for Pennsylvania is given.* Mr. Johnson urged the same views and plans on the attention of a committee of the Legislature, in 1833.

In 1833, Rev. Dr. George Junkin, President of the Lafayette College, at Easton, in a letter to Mr. Samuel Breck, Chairman of the Joint Committee on Education of the Legislature, after discussing the project of a Manual Labor School at Harrisburg for pupils who proposed to become teachers—also of similar schools, without manual labor, as Normal Schools, in different parts of the State—recommends the engrafting on existing colleges of a course of instruction for teachers, with opportunities of daily observation and practice in a common school, composed of the children of the neighborhood. The same plan, substantially, was suggested by Rev. Chauncey Colton, President of the Bristol College, in a letter of the same date addressed to the same Committee.

In 1834, Samuel Breck, as Chairman of a Joint Committee of the two houses of the Legislature, urges the establishment in existing colleges and academies of a “Teachers’ Course, and Model Schools,” for the professional education of several hundred teachers each year. The Bill re-

* Barnard’s “*American Journal of Education*,” Vol. V., p. 799.

ported by the Committee provides for an appropriation of \$8,000 a year for this purpose, under the direction of the Superintendent of Schools.*

In October, 1836, at a public meeting held in Philadelphia, called "to consider the condition and improvement of institutions of public instruction in Pennsylvania," Rev. Dr. Ludlow, Provost of the University of Pennsylvania, in the chair, the Rev. Gilbert Morgan, late President of the Western University, at Pittsburg, submitted a report in which a "*Plan for a Teachers' Seminary and for a Board of Public Instruction*" was fully and ably discussed. This report was printed and widely circulated through the State, besides being read to large public meetings called in Harrisburg, Pittsburg, and other places in Pennsylvania. The plan for a Seminary contemplated an independent institution, a faculty of five professors and teachers, a three years' course of study, with opportunities of practice in a large common school attached. The plan is avowedly copied, with modifications from the Teachers' Seminaries of Prussia and France, and the Seminary of Mr. Hall, at Andover, Mass.

In 1836, Thomas M. Burrowes, Secretary of State, and ex-officio Superintendent of Common Schools, in a report dated February 19th, urges upon the Legislature an appropriation of \$10,000 for "the establishment of two institutions, one in each end of the State, under the care of two of the colleges now in operation, for the preparation of common school teachers." In a subsequent report, in 1837, Mr. Burrowes renews the recommendation, with a suggestion that "the institutions should not be attached to any of the colleges, but be placed under competent and disinterested supervision, and be kept apart from any other object or profession." In 1838, the Superintendent returns to the subject—"the want of more and better teachers is by far the greatest difficulty of the system. Without them it can not long retain the degree of public favor now possessed; and with them its capacity for usefulness will only be limited by the necessities of the rising generation." To supply this want, "he has come deliberately and unhesitatingly to the conclusion that the best mode is the establishment of separate Free State Institutions for the instruction of teachers"—abandoning the plan of Academic and Collegiate Departments for this purpose, as altogether inadequate. The separate institutions he denominates Practical Institutes, in which the Model Schools were to be composed of the most promising pupils admitted free and by merit from all parts of the State. For the establishment of two such Institutions he recommends an appropriation of \$25,000. In the same year the Legislature authorized the printing of five thousand copies of Prof. Stowe's Report on Elementary Education in Prussia.

In 1838, the Trustees of Lafayette College, at Easton, under the lead of the President, Dr. Junkin, established a Model School for candidate

* "*Report of Joint Committee, &c.*," Harrisburg, 1834. 52 pages. To this report is appended letters from Pres. Junkin, Pres. Colton, Hon. A. C. Flagg and Hon. J. A. Dix, of New York, Rev. B. O. Peers, of Kentucky, R. Vaux and W. R. Johnson, of Philadelphia, and Hon. S. P. Beers, of Connecticut. Rev. Mr. Peers, of Kentucky, suggested the holding of a National Convention on the subject.

teachers, and erected a building for its accommodation. Dr. Junkin delivered an address on the 4th of July (which is published in the "Educator" of that year) "in commemoration of the founding of the first Model School for the training of Primary School Teachers in Pennsylvania, and the first, as believed, in the United States, in connection with a Collegiate Institution."

In April, 1838, Pres. Junkin, Prof. Robert Cunningham,* and Prof. F. Schmidt, of Lafayette College, commenced the publication of the "Educator," issued every second week (alternating with a German paper, containing nearly the same matter,) and "devoted to the development of education in the largest sense—the drawing out and training the powers of body, mind, and heart to habits of systematic, upright and profitable action—but mainly to the interests of Common Schools." From the year 1838, and until August, 1839, the "Educator" labored faithfully and ably for the professional training of teachers—publishing in its columns many articles on the subject by its own editors, and republishing the opinions and arguments of others—Channing, Stowe, Mann, Barnard, A. H. Everett, &c., citing the experience of France, Prussia, and Switzerland on the subject. But its expenses were not sustained by an adequate subscription list, and the attempt to establish a Normal Class with a Model School in connection with Lafayette College having failed, Prof. Cunningham returned to Scotland to become Principal of the Normal Seminary of Glasgow, and the publication of the "Educator" was discontinued.

In 1839, Prof. Cunningham published a lecture read by him before the American Lyceum in 1838, on "*The principles of the Prussian system of Education applicable to the United States*," in which he developed at some length the plan of a Normal Seminary, after the model of those of Prussia and France, but modified to suit the habits of our people. The same views were presented by him in an address delivered at Belvidere, New Jersey, in November, 1838, but published and circulated in Pennsylvania, in 1839.

In 1839, Alexander Dallas Bache, President of the Girard College of Orphans, made a report of his observations and study of the schools and school systems of the principal countries of Europe in the years 1836–7–8, which was published under the title of "*Report on Education in Europe*," and which was read with great avidity by the principal educators of this country. In this document Pres. Bache devotes a chapter to the description of "Seminaries for the preparation of Teachers for Primary Schools" in Prussia, Holland, France, and Switzerland.

In 1840, Francis R. Shunk, ex-officio Superintendent of Common Schools, in his report to the Legislature, urges the establishment of Teachers' Seminaries "for supplying all our primary schools with an

* Prof. Cunningham was trained in the Parochial Schools and Universities of Scotland, and after serving as head master of George Watson's Hospital, established the High Street Institution, at Edinburgh, in which he aimed to incorporate the Common Real School into the ordinary Classical School of Scotland. This plan is described by Prof. Bache in his Report on Education in Europe.

adequate number of good teachers." And for this purpose he recommended that the State be divided into a convenient number of Normal School districts, not more than five, and that three commissioners be appointed from each district to collect information for organizing, governing, and conducting these seminaries. In the same year the Superintendent requested Prof. Lemuel Stevens, who was about to visit Europe, to communicate to him the results of his observations and inquiries concerning Common Schools, and the education of teachers for this class of Schools. In 1843, Prof. Stevens addressed a letter to the Superintendent, which is published in the report of Superintendent Charles McClure for 1844, in which he gives his views on the Normal Schools of Germany, and the principles to be regarded in the establishment of this class of institutions in this country, and especially in Pennsylvania. He advises the Superintendent to guard against an imperfect organization, and inadequate supply of teaching power in these Seminaries. "Every thing depends on making them separate and independent establishments with a careful provision for a thorough theoretical and practical preparation for all the duties of the Common School." Mr. McClure indorses the views of his predecessors on the necessity of making some provision for the education of teachers.

In 1849, Townsend Haines, Superintendent of Common Schools, urges the establishment of Normal Schools in each county, and a central institution of the same character for the whole State, and open only to the graduates of the county institutions.

In 1850, A. L. Russell, in his report as Superintendent, recommends a Seminary for teachers in each congressional district with Model Schools attached, under the supervision of county Superintendents. In 1851, he renews the suggestion, with the addition of one State institution for special instruction in the theory and practice of agriculture, and for general instruction in all the branches of a High School course; three hundred pupils to be taught and supported at the expense of the State, and bound to devote a certain period afterwards to the business of teaching in the Common Schools.

In 1853, F. W. Hughes, Superintendent, while acknowledging the force of the argument in favor of independent and continuous Normal Schools, recommends a modification of the plan, by opening courses of instruction for periods of three or four months of the year to teachers actually engaged in the schools, to attend during their vacations.

In 1854 and 1855, C. A. Black, Superintendent, "renews the recommendation so often made by his predecessors, for the establishment of schools for the perpetual training of teachers."

In 1856, Andrew G. Curtin, Superintendent, remarks "that the period has now arrived for legislative action on behalf of Normal Schools. They should embrace two departments—one for the improvement of the present teachers, and the other a regular Normal Department. By opening the first, the present generation of teachers may be vastly improved

in professional skill and efficiency; and the second will provide for a succession of teachers to meet the growing demands of the age and country."

In 1857, the same Superintendent returned to the subject with greater urgency, and the Legislature on the 20th of May, 1857, embodied his suggestions in an Act, drawn up by Thomas H. Burrowes, entitled "*An Act to provide for the due training of Teachers for the Common Schools.*"

This act inaugurates a large system of Normal Schools, and provides for a series of teachers' certificates which, if properly administered, will come nearer our ideal of this class of institutions than if organized exclusively under State control and supported by State funds. It aims to enlist and reward individual and associated effort and liberality, and brings to the test of State examination the results of such professional instruction as shall be imparted in these schools. It recognizes and gives currency to professional attainments and skill, no matter where educated and trained.

The Act of 1857 provides for the establishment of at least twelve Normal Schools, by dividing the State into twelve districts of nearly equal population and similar characteristics of occupation and language, each district to have not more than one school under the Act. The details for carrying it into effect will be best understood in the account which we propose to give of one or more of the institutes already established in pursuance of its provisions.

The essential requisites for securing professional training, and uniformity of aims and methods in obtaining the same are—1. Each school must have an area of not less than ten acres of ground, for the buildings, gardens, gymnastic and other physical exercises, &c. 2. One or more buildings, sufficient to furnish lodging, and refectory, class rooms, hall, library, and cabinets, for at least three hundred students. The hall must accommodate at least one thousand adults, and all the buildings must be arranged and constructed, as to light, heat, and ventilation, so as to secure the health and comfort of the occupants. 3. At least six Professors, of liberal education and known ability in their respective departments, viz.: Orthography, Reading, and Elocution—Penmanship, Drawing, and Book-keeping—Arithmetic and the higher Mathematics—Geography and History—the Grammar and Literature of the English language—the Theory and Practice of Teaching, and such other instructors in the Natural, Moral and Mental Sciences, and in Languages, as the grade and attendance may require. 4. One or more Model and Practising Schools in connection with the Normal School. 5. Uniform conditions of admissions, and course of instruction, approved by a majority of the Principals of the several schools each year, at a meeting of which all shall be notified. 6. Examinations for graduation to be conducted and certificates of proficiency in the studies specified to be issued to graduates, by a Board of not less than three Principals, designated for this purpose by the State Superintendent of Common Schools. 7. State

diplomas, good all over the State can be granted by the Board of Principals only to those who have had at least two full annual terms of actual teaching after regular graduation, and certificates of good moral character and success signed by the Directors of the schools where employed, and countersigned by the County Superintendent in which the schools are located. 8. Examinations in higher branches than these specified in a first certificate can be asked, and the proficiency, if shown, can be certified by the Board of Principals. 9. Each Common School district (each town and city) within a Normal district can maintain one pupil, selected by open competitive examination, who shall manifest a desire and capacity for the profession of teaching. 10. The Act makes all necessary powers for the full execution of its various provisions, and for obtaining information respecting the condition and operations of the schools.

Under this Act three Normal Schools have gone into operation, viz.: One at Millersville, in the second district, with grounds, buildings, and apparatus, which cost up to 1863, \$62,000; one at Edenboro, in the twelfth district, with an outfit of buildings, &c., which cost \$28,000; and a third at Mansfield, in the fifth district, with buildings, &c., provided at an expense of \$24,000. Each of these schools has received \$10,000 from the State. The three had a total attendance in 1864 of over 800 pupils.

Among the direct and efficient agencies in the development of the professional training and improvement of teachers in Pennsylvania should be noticed the holding of Teachers' Institutes and the establishment of associations, town, county, and State-wise, for educational purposes—the monthly publication of the "*Pennsylvania School Journal*," by Hon. Thomas H. Burrowes, since July, 1852, each number crowded with valuable statistics, documents, discussions, and addresses relative to education—and the institution of the office of County Superintendent, in 1853. With this new administrative element acting in every district, and on almost every teacher and school, stimulating and directing individuals and associations, parents, committees, teachers, children, and the public generally, improvements could not fail to spring up in all directions. In a future number we hope to give an account of one or more of the State Normal Schools, and of the proceedings of the State Teachers' Association, with biographical sketches of several of the prominent teachers and educators of Pennsylvania.

SCHOOL DECORATION IN GREAT TOWNS.

ART IN SCHOOLS.

A LECTURE BY ARCHDEACON FARRAR, D.D.*

GROWTH OF GREAT TOWNS IN ENGLAND.

Long ago, Cobbett, in his disgust at the condition of London, called it "a great wen." The wen has become an enormous tumor; in parts, even a dangerous imposthume; and towns as huge as London was in Cobbett's time, and much more dirty, have now sprung up all over the country. The last census revealed the startling fact that the whole sweet rural life of England is more and more rapidly diminishing; that young men are flocking into cities in increasing numbers; that our towns already contain half, and may soon comprise two-thirds, of our population; in one word, that while the country is undergoing a process of depletion, our towns are in danger of plethora. Now a physician recently told us that great cities are the graves of the *physique* of our race. That is a serious consideration; but it is a yet more solemn thought, that the *physique* of a race is closely connected with its *morale*; that health and morals act and react upon each other; that "if you rumple the jerkin you rumple the jerkin's lining." A race, pale, weakly, stunted, miserable, will be the inevitable outcome of a race distracted, in childhood by over-pressure, in youth by spurious excitement, in manhood by grinding struggle, in old age by a miserable dependence on public charity. In proportion to the peril of a disorder is the value of each little element of cure.

Causes and Consequences of Over-crowding Cities.

We breathe an atmosphere eternally contaminated by smoke and fog, which clog the leaves of every tree, and actually blacken the lungs of permanent residents. Never, as long as I live, shall I forget the Christmas-day of 1882. London was covered, all day long, with a pall of grimy and intolerable midnight, rendered yet more frightful by gleams of a ghastly and lurid yellow. It was a day which seemed to have come straight out of Dante's *Inferno*, and it rested on the spirits like the smoke of the abyss. A large proportion of Englishmen do not know what it is to see a perfectly azure heaven, or more of sunset than they can catch a glimpse of through the tops of smoky chimneys. And then, consider the state of our streets! Nothing surely but necessity could make human beings content to live all their lives in such acres

* Delivered at the London Institution for the benefit of the Association for promoting Art in Schools, November, 1884.

of dreary brick-work as Wapping and Hoxton and Stepney and White-chapel, and similar regions in all our manufacturing towns. Many of us reside in such places, first, because we must; next, because we grow indifferent to their dreariness; lastly, because we live in the hope, often frustrated, of escaping from them at the earliest opportunity. This accounts for the centripetal force which drives tens of thousands into town every morning, and the centrifugal force which drives them out again every evening. This systole and diastole of the throbbing heart of London is caused by the attempt at partial escape from smoke and dirt. But it has its dangers. The rich and the poor are no longer close neighbors. The manufacturer no longer has his home among his "hands." Two worlds live in all but total ignorance of each other's methods of life. Not thousands, but tens of thousands of families, consisting of members of both sexes and all ages,—“Misery's sons and daughters, and the multitude that are ready to perish,”—live huddled together in single rooms, under conditions in which delicacy and decency seem to be impossible. Masses of the poor are crowded, swept, crushed together in heaps, which I dare not characterize by the terrific epithet which a great writer has applied to them, but which has given to the English language the new and hideous names of “slums” and “rookeries.”

The causes and the consequences, inextricably interfused with each other, like the creatures, half human, half serpent, which Dante saw in the seventh chasm, are Drink, Disease, Degradation. The Huns and Vandals who shall wreck the prosperity and the institutions of England are being trained,—as we have been warned,—not on the steppes of Asia, but in the streets of towns. And we must not suppose for a moment that these consequences are confined to the immediate victims. The typhus, or scarlatina, or small-pox, which lurks in some horrible court, may be conveyed to far other regions by the dress, or the uniform which the District Visitor sees being made in an infected room, or giving warmth to a bed where the sick are lying. These blind alleys, poverty-stricken amidst wealth, criminal in defiance of law, dehumanized in spite of civilization and of Christianity, are the hotbeds of the harlot, the felon, and the drunkard, who are to England her heaviest burden and her most deadly curse. They will be, as Professor Huxley has said, the great Serbonian bog of our future civilization. The rector of a parish of 20,000 poor people in the East End of London told me that, when he considered the hopelessness and wretchedness of the lives they lived, he felt certain that some terrible revolution must, sooner or later, come. If 1884 forgets the terrific lessons of 1792 and of 1848 and of 1871, the mountain which has begun already to mutter may some day burst, and “the thin blue smoke,” which now rises as from a narrow fissure, may, to borrow the image of a great orator, become a river of fire, and “the bellowing thunder of a volcano which shall shake the world.”

Art for Schools Associations.

The effort which the Association of Art for Schools is making is a small one, but it is an effort in the right direction, and will co-operate with thousands of other beneficent endeavors to alleviate if not to remove, to delay if not wholly to avert. For one element, undoubtedly, in the grim tragi-comedy of which I have spoken,—a comedy with no humor in its grotesqueness, a tragedy with no dignity in its pathos,—is the increasingly abnormal nature of the conditions of city life for all of us, but most of all for the poor. It is useless to say with the poets, that

“God the first garden made, and the first city Cain;”

or

“God made the country, and man made the town.”

Life in great cities is, and always has been, an inevitable necessity of the growth of civilization. Nevertheless, it is our duty, and all the more our duty, to restore, to the utmost of our power, the balance which we have destroyed in the conditions of life with which God meant us to be blessed. I rejoice, therefore, that it has occurred to some kindly and thoughtful persons to provide elementary schools, not only with works of Art, but also with plants and flowers. One of the most pathetic, one of the most powerful appeals which God has addressed to us is that which comes to us from the beauty which He has lavished upon the world. It is the very autograph of love. Without necessary things we could not, of course, have lived at all; but with these necessary things God has, as it were, thrown in the not necessary but infinitely blessed element of beauty. Consider the beauty of water—that pure crystal, that perfect diamond of God—in every undefiled form of it: in the mist upon the mountain side; in the rivulet which bubbles up amidst moss and fern; in the majestic river; in the inviolate sea; in the dew upon the grass; in the snowy clouds which catch a gleam of crimson in the evening sky. Consider the beauty of light: light is needful to us, but the infinite loveliness and diversity of color,—the hues of the rich unfolding dawn, the blue sky, the green earth, the splendor of the dove's neck and the peacock's plume, the sevenfold perfection of the rainbow's arch,—these are a gratuitous gift of God. Consider vegetation: the commonest of trees, the commonest of flowers,

“The great elm-tree, in the open, posed
Placidly, full in front, smooth bole, broad branch,
And leafage, one green plenitude of May.
O yon exceeding beauty! bosomful
Of lights and shades, murmurs and silences,
Sun warmth, dew coolness, squirrel, bee, and bird,
High, higher, highest! till the blue proclaims
Leave earth; there's nothing better till next step
Heavenward.”

The rich could hardly render to the poor in cities a simpler act of kindness than by supplying with flowers the schools of their children. Even

wild flowers, plucked from the lavish prodigality of beauty on woodland banks, primroses and daffodils,

“That come before the swallow comes, and take
The winds of March with beauty,”

might preach to our little city Arabs such “Sermons on the Mount” as they have never heard before.

Mission of Things Beautiful in Nature.

Kingsley tells us how once, in the streets of London, he stopped to look at a cage of humming-birds in the shop of a naturalist. “I was gloating,” he says, “over the beauty of these feathered jewels, and then wondering what was the meaning, what was the use of it all; why those exquisite little creatures should have been hidden for ages in all their splendor of ruby and emerald and gold in the South American forests, breeding and fluttering and dying, that some dozen out of all those millions should be brought over here to astonish the eyes of men. And as I asked myself why were all these boundless varieties, these treasures of unseen beauty created, I ‘turned to share the joy.’ Next to me stood a huge, brawny coal-heaver, in his shovel hat and white stockings and highlows, gazing at the humming-birds as earnestly as myself. As I turned, he turned, and I saw a bright, manly face and soot-grimed forehead, from under which a pair of keen, flashing eyes gleamed wondering, smiling sympathy into mine. In that moment we felt ourselves friends. We only looked half a minute at each other, with a delightful feeling of understanding each other, and then burst out both at once with, ‘Isn’t that beautiful?’ ‘Well, that is!’ And then both turned back again to stare at our humming-birds.”

A young lady was giving a lesson before one of our inspectors of schools on “The Bee” to a class of children at Ancoats, and the tears stood in her eyes to find that the children only seemed to get blanker and duller as she proceeded. The inspector interposed, and found out the reason of their total want of interest in an interesting lesson. It was because these children had never seen a bee, and had no idea what it was like, or where it might be found! Never seen a bee! Perhaps you may ask, “What does it matter whether the children had ever seen a bee or not?” Well, only consider all that it implies; the immense loss of sympathy with some of the sweetest facts of Nature which have been known to man ever since man was. Even Homer had watched the

Ἔθνεα πολλὰ μελισσῶν ἀδινάων
Πετρῆς ἐκ γλαφυρῆς αἰεὶ νεὸν ἐρχομενάων,

the dense swarms of bees as they flew out of their hives in the hollow rock, or hung in grape-like clusters on the blossoms of the spring. Even Æschylus sings with delight

Τῆς ἀνθεμουργοῦ στάγμα, παμφαῆς μέλι,

“the gleaming honey-drop of the golden bee.” As for modern poetry, it is full of the

“Murmur of innumerable bees.”

Read the delicious lines of Keats:

“Mid boughs encradled, where the deer’s swift leap
Startles the wild bee from the foxglove’s bell;”

or Tennyson’s:

“For now the noonday quiet holds the hill;
The grasshopper is silent in the grass;
The purple flowers droop; the golden bee
Is lily-cradled.”

Thirty years ago I read some lines by some unknown poet which I remember still:

“Beautiful, O woman, the sun on flower and tree,
And beautiful the balmy wind that dreameth on the sea,
And beautiful the hushing of the linnet on her nest,
With her young beneath her wings and the sunlight on her breast;
While hid among the flowers, where the drowsy bee is flitting,
Singing unto his own glad heart the village child is sitting.”

Even amid the gloom of London there sometimes flashes upon “that inward eye which is the bliss of solitude,” a privet-hedge in my garden at Marlborough, behind which were some bee-hives, and under their stand I had planted a quantity of borage. To see the hundreds of bright blue flowers, with myriads of bees buzzing and revelling among them in the summer noon, was a sight never to be forgotten. And imagine the surroundings of children who have never even seen a bee! A little girl in Sheffield was sent a message the other day to a village two miles off, and, till that day, she had never seen the lambs in the fields.

Art supplies the Deficiencies of Nature.

Thousands of town children have lived lives entirely ignorant of the lavish splendors with which God has adorned our earthly dwelling-place. Not for these are His fantasies of balm and bloom in the summer meadows. Not for these does His grass grow upon the mountains, and green herb for the use of men.

All the more, therefore, should it be our duty to teach them, as far as we can by means of Art, what Nature looks like, and what Nature means; to provide them for the loss of natural beauty, with such compensations as Art can give. For when a man, from childhood upwards, has been wholly deprived of these, when he hears little but what is debasing, and sees nothing but what is ugly and squalid, what can we expect of him? A true human being cannot be brought up in a sty. Finding no refuge anywhere from the meanness and ugliness of life, he will pass from the dull sty to the unlovely street, and from the bad street to the maddening gin-shop.

Country children no less than our town children suffer, because in them also the regenerating and ennobling instinct of beauty is left

uncultivated. They are not rightly trained to see or to admire. When Professor Henslow went to take charge of a dull and lonely country parish, he said that, but for the continual interest of botany, he might have gone mad or committed suicide. He began to initiate the village children into the elements of botany. The result was remarkable. The village girls and boys increased in intelligence, and it was found that the girls were so useful in awakening the interests of other children in rural sights and sounds, that nurse-maids from that village were sought for far and wide. The nation has of late years developed a most laudable zeal in the cause of education. I do hope that the education may not become too burdensome, too artificial or mechanical, too heavy a load upon the memory, too total a neglect of the imagination. I do trust that it may not multiply what has been called "the plague of fermenting imbecility, striving to make for itself what it calls a position in life." The whole Education Department might well take to heart the remark that "Education does not mean teaching people to know what they do not know, it means teaching them to behave as they do not behave. It is not teaching the youth of England the shapes of letters and the tricks of numbers, and then leaving them to turn their arithmetic to roguery and their literature to lust. It is, on the contrary, training them to the perfect exercise and kingly continence of their bodies and souls, by kindness, by watching, by warning, by precept, and by praise, but, above all, by example." I have long ago, and often, expressed my opinion that the education of Englishmen of all classes, high and low, is in danger of being ruined and paralyzed by the plague spot of competition, the dry rot of artificiality, the mandarinat of incessant and wearying examinations.

Next, even in country schools Art is necessary as an interpreter of Nature. Plato dismisses painters from his ideal republic, because he says they only make copies of external things, which are themselves but copies of the ideal; that is, of the eternal realities and archetypes. This was a misconception of Art altogether. The great artist has a far loftier aim than the mere copying of the external. His art, if it be merely imitative of surface, becomes essentially second-rate. His aim is, through the sensible object, to give us the inmost idea. "Art," it has been said, "is a perfected nature, which conceives of unity beneath variety; of the general within the particular; the moral within the physical; the absolute within the relative; and which strives to reproduce the object of the conception, but by means of forms more faithful." In one word, "Art is the representation of the ideal." It does not imitate, it interprets. It enables men to penetrate through the squalid to the idea which is dormant in it. The great artist teaches us to see, what to see, and how to see. He sees the infinite in things, and expresses it in the form of beauty. He enables us to observe, through the medium of his own genius, that which to our own mediocrity might otherwise have been common-place. He shows us, as Mr. Browning truly says,

“The beauty and the wonder and the power,
The shapes of things, their colors, lights, and shades,
Changes, surprises,—and God made them all.” . . .

My conclusion is that the decoration, with good pictures and engravings, of our Board and National Schools—a thing which the slightest local effort might everywhere effect at very small cost—would have an influence decisively and beneficently educational; especially if, as I assume, they are occasionally explained by the teachers. Nor is it any matter of *à priori* conjecture that such objects may train the minds of some children in a genuine and wholesome sense of beauty, and exercise upon the minds of others an influence still more special and decided. Let me try to show you, first, that we have the highest authority for the theory, and then that it is thoroughly ratified by actual experience. In defense of the theory, I will refer you to the greatest poem ever written, the “Divina Commedia” of Dante. Notice how, from the precincts of the Inferno, he excludes everything which has in it a single redeeming touch of beauty. Notice his instinctive sense that there is an impassable chasm between the Infernal and the Beautiful. There you have foul rain, murky gloom, the red-hot pinnacles of the city of Dis, burning tombs, silent and awful, scorching sand, rivers that leap into the abyss “in a Niagara of blood”; you have the petrifying Medusa, the wallowing Minotaur, the indecent fiends, the loathly Gorgon, the ghastly wood of the suicides, on whose gnarled boughs sit the obscene harpies of despair and misery, the hideous distortions, the human serpentry, Lucifer with his black, yellow, and vermilion face, and his frozen, tufted, bat-like wings. Dante seems to have felt instinctively that even one lovely thing in those regions would imply a redeeming touch of that mercy which mediæval theology compelled him wholly to exclude. And therefore when his poem requires the presence of an angel, he will not allow the ghastliness and squalor to be even for a moment banished or relieved. The angel himself seems to be half transformed by the horrid medium through which he moves. He is not radiant and affable, but full of disgust and indignation. The ruined spirits fly before him like frogs before the water-serpent, and with his left hand he moves from his face the gross air of the abyss. He does not so much as notice the two poets; to the fiends he speaks only a few words of concentrated scorn, and then speeds away disdainful in a moment. Compare this with the Angels of the Purgatory, in their radiant beneficence, with their swan-like wings and dazzling faces and fair hair and emerald robes, breathing immortal fragrance, and speaking in words of love; or with the spiritual splendors, the living rubies and topazes of the Paradise. Nor is this all; for in the Purgatorio the speaking sculptures on the marble floor of the Terrace of Pride are used by Dante, as expressing the strongest and most blessed remedial agencies. He uses Art for the awakenment of sin-tainted, though not yet sin-ruined, souls.

There are scores of memorable instances in which the whole future destiny of children has been swayed for life by the objects of Art which they have seen around them. Vauban, the great engineer, attributed the mechanical bent of his genius to the fact that, as a child, he used to be shut up in a room which contained no single object except a clock. The destiny of Chatterton was decided by the old muniment room and mouldering documents of St. Mary's, Redcliffe. Turner's genius was fired by the accidental familiarity with a very ordinary picture. Darwin tells us that his bent for traveling had been decided by the picture of a tropical plant. Mr. Ruskin has somewhere attributed his Art faculty to the circumstance that, as a child, having no plaything but a bunch of keys, he spent hours in tracing out the patterns on the carpet. It is mentioned in President Garfield's life that the wife of a farmer, far in the country, being astonished that her boys, one after the other, developed a passion for going to sea, the explanation was given when some one pointed to the picture of a ship at full sail, which hung over the chimney-piece of the room with which they were most familiar. We know, too, of actual schools where the children have shown themselves sensible to the influence of pictures on their school-room walls. The other day a kind-hearted lady invited to her house some of the children from Whitechapel. They soon began to talk freely to her, and one of the confidences was: "We've such a beautiful picture in our school; it's all about the sea." Mr. Ruskin tells us that not long ago he gave to a school in a fishing village, a copy of little value, of an angel of Fra Angelico, which he had bought out of charity of an Italian artist. Nothing could exceed the delight and gratitude of all connected with the school. It seemed to the children like a glimpse of Paradise.

I do not think, then, that I exaggerate when I say that such pictures may, especially in the hands of wise teachers, have an educational value of the highest order.

Tennyson felt this when he wrote his "Princess," and shows how carefully Ida filled her college full of all rich memorials, so that the eyes of the girl-graduates might be daily and hourly familiarized with deeds and examples of pure and noble womanhood:

. . . "She
That taught the Sabine how to rule,
The foundress of the Babylonian wall,
The Carian Artemisia strong in war,
The Rhodope that built the Pyramid,
Clelia, Cornelia, with the Palmyrene
That fought Aurelian, and the Roman brows
Of Agrippina."

I dare say that there is hardly one of us who cannot recall some picture which has exercised, at some time or other, an intense effect upon himself. Sometimes it is a mere wood-cut. I remember one of a monk, his head covered with a cowl, kneeling at the foot of a cross, which haunted me for weeks. The whole career of Count Zinzendorf was

influenced by an "Ecce Homo" in the gallery at Düsseldorf. Dürer's engraving of "The Knight and Death," inspired La Motte Fouqué's admirable story of "Sintram and his Companions." An old piece of tapestry stirred in Mr. Browning the thoughts which find such immortal utterance in his "Childe Roland to the dark tower came." Could there be a finer sermon on the unsatisfying effect of all human knowledge, apart from divine wisdom, than Dürer's marvelous "Melancholia?" Was there ever a more thoughtful comment on "Behold! I stand at the door and knock," than Holman Hunt's "Light of the World"? If you wanted to impress a youth with the duty of making a resolute choice, not of pleasure, but of virtue, might he not be inspired by Raphael's picture of the "Knight's Dream"? Or, if you wanted to assure him of the certain victory of those who fight against corruption, could he see a grander allegory of it than in Turner's "Apollo and the Python," the beautiful sun-god, in his radiant circle of light, slaying the huge, hideous, envenomed monster, which bursts asunder in the midst under the arrows of the dawn? Once more—not to weary you—take the last picture acquired by the National Gallery, and attributed to Velasquez. It represents a little child, brought by his guardian angel to behold and to seek the help and blessing of the Redeemer, who has been scourged and is soon to be crucified. Half seated, half lying on the ground, faint and mangled, He is fast bound, He cannot move; yet He turns His face and reaches as far as the cords will let Him to the little child, as if He would stretch out His arm to him and embrace him, only His arms are tied. He is helpless to help the helpless. And the child, shocked at the spectacle, half shrinks and half worships. And the peculiarity of the picture is this: that it is at once the most repelling and the most fascinating picture in the collection. There is not in the whole canvas a gleam of beauty, and yet so deep and true and awful is the parable of human life which it presents, that no one who has seen it can ever forget it. For, underlying all this picture of helpless and hopeless suffering, there is the pathetic reality of our helplessness and of our hope, our pathetic insignificance, and the reality of all that was done to help us. That picture represents, in a way that Art has rarely equaled, the humiliation which preluded the victory of the Lord of Life and Death, who is the Brother, the Friend, the Redeemer of mankind.

We spend three millions yearly on elementary education, and yet spare the mere fraction of expense which might help to make school hours more pleasant, and school buildings less repellant; and which if wisely utilized, might develop in children not only a higher intelligence, but also a sense of revolt against things brutal, and a sense of dislike to all that is morally and physically foul. It is but little that we can do at the best, and vast and terrible and deeply seated is the work of evil which has to be undone. We shall not, indeed, bring Utopia at once into existence by surrounding the children of the nation with objects of beauty, and with the reproduction of lovely scenes and noble works of Art; but all that we do in this matter will be work done in a right direction

DECORATIONS OF THE UPPER HALL.

The plan of decorating one or more rooms in our public school-houses with a collection of casts, was laid before the Educational Committee of the American Social Science Association, by one of their number, about two years since. It was recommended by him, and approved by the committee, as a simple but efficient means of introducing an æsthetic element into the educational system of the United States. Casts, if selected to express the highest laws of form and the purest types of beauty, were thought to promise a favorable effect upon the mental and moral training of the young, especially if associated with their studies, that is, their daily efforts to improve themselves.

A special committee was formed to carry the plan into execution. They decided to place a carefully chosen number of casts in a hall of a new school-building in Boston. To this they were led, partly by the character of the building itself, and the facilities of which they were assured on the part of the school committee and the architect, but still more by the character of the school, being the Girls' High and Normal, and therefore comprising just that body of teachers and pupils with whom the experiment might be most favorably tried. The building is on West Newton street, and the hall to contain the casts is that intended for the general gatherings and exhibitions of the pupils. It has been finished at the expense of the city, with special reference to the casts. For a series of slabs from the frieze of the Parthenon, an architrave has been constructed, resting on Doric pilasters. Between these pilasters the walls have been painted of a color suitable as a background, and brackets or pedestals and battered form have been provided for the busts and statues.

The cost of the casts themselves, their packing, transportation, unpacking, and repairing, has been met by the subscriptions of a few members of the American Social Science Association, together with some persons not members. It has been a quiet movement, begun and ended under the competent direction of one gentleman (C. C. Perkins, Esq.,) in particular.

All is now happily accomplished. The casts are in their places, and the work it is hoped they will do has been begun. It remains only to present a list of them, with the sources from which they have been obtained, and their cost, for the information not merely of those who see them, but of those who, though not seeing them, may be inclined to procure others like them, for the decoration of schools in different parts of the country.

List of Casts.

1. FRIEZE OF THE PARTHENON. *British Museum.* This is the chief work of the collection, not only in size, but in character. From models by Phidias and his pupils. The original ran around the outside of the cella or body of the temple, about thirty feet above the base of the wall; and, being under the peristyle, was at some distance from the light. It is known, however, to have been colored and gilded, and therefore much more readily seen than might be imagined. The date is about 435 B. C.

The frieze, of which the larger part is reproduced, represents the great procession on the last day of the national festival called Panathenæa. Starting from the Cerameicus, the procession wound by a long route to the summit of the Acropolis. Nearly the whole population of Attica appears to have joined in it,—some in chariots, some on horseback, some on foot; maidens bearing baskets filled with votive offerings; old men with olive branches, and in the midst a ship, from whose mast hung the peplus, a crocus-colored garment embroidered with mythological figures, the tribute of the Athenian maidens, or rather of the whole Athenian people, to the Goddess Athena. The ceremony of delivering the peplus to the Archon and priestess of the temple, with the Olympian deities seated on either side, is represented in that part of the frieze above the stage in the exhibition hall.

2. CARYATID. *British Museum.* One of six figures supporting the southern portico of the Erechtheum on the Acropolis at Athens, and brought thence to England by Lord Elgin in 1814. Its erect position and straight falling draperies recall the Ionic column it replaced.

3. DIANA. *Louvre.* Known as Diani of Gabii, because discovered in the ruins

of that city near Rome, in the year 1792. Also called Atalanta. The action is fastening the mantle on the right shoulder. The statue probably dates from the fourth century B. C.

4. VENUS. *Louvre*. Called of Milo (the ancient Melos), where it was found in 1820. As the drapery at the back is only blocked out, the statue must have stood in a niche or against a wall. The action has been variously interpreted. One writer thinks the apple of Paris was held in the left hand, while the drapery was sustained by the right; another thinks the left arm and hand supported a shield resting on the thigh, while the right hand was free for the inscription of fallen heroes. It is probably of the fourth century B. C.

5. POLYMNIA. *Louvre*. Found in Italy, and restored at Rome by a sculptor of that city, near the beginning of the present century. The Muse is supposed to be leaning on a rock of Helicon.

6. PUDICITIA. *Vatican*. Found in the Villa Mattei at Rome. The name was applied to it on account of the resemblance to a figure so named upon Roman medals. Also called the Tragic Muse. Also supposed to be a portrait of the Empress Livia. The right hand is a poor restoration.

7. AMAZON. *Capitoline Museum*. Found in the Villa Mattei. The action is passing the bow over the head, as the Amazon arms herself.

8. GENIUS OF THE VATICAN. Found near Rome about a century ago. Thought by some to be a Cupid, and a copy of a celebrated work by Praxiteles; by others, the Genius of Death, as frequently figured on Roman sarcophagi.

9. PSYCHE. *Naples Museum*. Found in the amphitheater at Capua. One critic thinks that it represented Psyche with her hands bound behind her back. It is probably a repetition of a Greek original.

10. DEMOSTHENES. *Vatican*. Supposed to represent the delivery of a Philippic. Niebuhr suggests that it is a copy of the statue erected by the Athenians in memory of their great orator.

11. BONE-PLAYER. *Berlin Museum*. This is thought to have been a portrait, executed near the beginning of the Christian era.

The following are busts:—

12. APOLLO (Archaic). *British Museum*. Of an earlier period than any other work in the collection, probably the beginning of the fifth century B. C.

13. APOLLO (Pourtales). *British Museum*. Formerly in the gallery of Count Pourtales at Paris. It has been supposed to represent the god as the leader of the Muses.

14. ZEUS TROPHONIUS. *Louvre*. This is an imitation, if not an actual specimen of the Archaic style. Zeus was called Trophonius because worshiped at the oracle of that hero in Bœotia.

15. JUPITER. *Vatican*. Found at Otricoli, about forty miles from Rome. The original can not have been sculptured before the first century of our era, as it is of marble from quarries not worked until that period. Of all known heads of the god, this is considered the most Phidian in tone.

16. JUNO. *Villa Ludovisi, Rome*. This head probably formed part of a colossal statue, the work of a Greek sculptor, in the fourth century B. C.

17. PALLAS. *Louvre*. Styled of Velletri, because the statue to which this belongs was found there in 1797.

18. BACCHUS (Young). *Capitoline*.

19. ÆSCULAPIUS. *British Museum*. Found in the Island of Milo in 1828, and supposed to have been executed about 300 B. C. The expression has been remarked upon as befitting the great Healer.

20. HOMER. *Capitoline*.

21. PERICLES. *Vatican*.

22. AUGUSTUS (Young). *Vatican*.

The above were ordered as follows:—

Nos. 1, 2, 12, 13, 19, from D. Brucciano, 40 Russell street, Covent Garden. London; Nos. 2, 5, 7, 9, 11, 14, 17, 22, from Bureau du Moulage, Palais du Louvre, Paris; Nos. 6, 8, 10, 15, 16, 20, 21, from L. Malpieri & G. Candiotti, Rome; Nos. 4 and 18 were purchased of Paul A. Garey, 6 Province House Court, Boston.

The President of the Social Science Association, Samuel Elliot, LL. D., presented the collection, with the following remarks:—

Mr. Chairman:—It is my pleasant office to offer, in behalf of all those who have contributed toward placing this collection of casts here, their contribution toward the success and the development of this school. We have thought that while there is enough controversy in the educational world as to the proportion which different studies should take in it, while some of us are very much on one side and some on the other, and not so many of us, perhaps, between the two, with regard to the prominence which should be given to one study above another, there is an opportunity for those of us who believe in its influence to advocate one study not generally advocated, and to press its claims upon the thoughts and the affections of this educated community. Fair as our school system is, and adorned as it is with all the light and beauty that stream in from the past upon the present, there is one ray which has not yet penetrated far, one that comes from the art of the ancient world, one that, if it comes, comes here, as everywhere, fraught with light and benediction. About the place that should be assigned to Greek language or literature in a programme of study there may be a question, but about the place to be assigned to Greek art there is no question, and there can be no question among those who know what that art is, and what power it is susceptible of wielding. If it were only as a mere negation of that high pressure put upon our children; if it were only as a softening element introduced into study that needs to be softened and shaded down,—

‘Quam neque longa dies nec pietas mitigat ulla,’—

like the harper who lays his open palm upon the harp to deaden its vibrations, æsthetic education, if it found its place among us, would soften and sweeten the whole course of study. But it is not merely as a negation that art should be welcomed among us; it ought to come full of that positiveness, full of that inspiration which we all stretch out our arms to accept, and open our hearts to bless. Greek art is the expression of the finest culture and the deepest thought that have ever found an abiding place upon this earth. It was the pursuit of the best men in Athens and throughout Greece. It ought to be cherished by us, it ought to be made more of for the lessons, not merely artistic, but intellectual and moral, which it conveys. In its simplicity, its idealism, in its unbroken and unshaken truthfulness it is a teacher of principles which no scholar can learn without being the better for them, and no community cherish without being sanctified by them. If we welcome it here we shall welcome something which will make our school brighter, our home dearer, and our whole lives nobler. We shall welcome something which we can take into our breasts and cherish there, and, while we cherish it, it cherishes us and gives life, and breadth, and purity.

Mr. Chairman, I offer in the name, not merely of the American Social Science Association, but more particularly in the name of those members of the association, and those friends of theirs not members, who have taken part in this work, the collection which we see on and about these walls. It has been carefully chosen, under the guidance of one (Mr. Charles C. Perkins,) who will follow me in explaining his choice. We owe to him, I am free to say, a large share of what will make this collection valuable here, and will lead, as we trust, to its being imitated elsewhere, and I beg the teachers and the pupils of this school to feel that we ask them and depend upon them to help us in this experiment which we are trying. If they value these expressions of art, if they think well of them and speak well of them, if they get that good from them which we believe they will, the ripple which is stirred here to-day will spread far beyond this school and this city, to every part of the country; and there will gradually come into the education of the United States an æsthetic element which it now wants, but which is as sure to come through this experiment, or through some better experiment, as the sun is sure to rise to-morrow.

I beg your permission, Mr. Chairman, in conclusion, to read a part of a letter, which was addressed to me to be read to-day. It comes from the friend who gave this frieze which runs about these walls, a friend who was the first to propose this work, whose sympathy and enthusiasm have encouraged it at

every step, and who ought to be here to-day in the flesh, as I doubt not he is in the spirit, to witness the result of his efforts and his hopes,—Mr. James M. Barnard: “A great interest is felt here,” he writes from Italy, “in this movement, particularly in the plan which has been adopted for the public schools by the association. I wish I could be present to rejoice with you in the inauguration. Receive my profound sympathy. Mrs. Barnard unites with me in presenting to the Girl’s High and Normal School, through the association, the frieze of the Parthenon, reproduced by Brucciani from the originals in the British Museum.” And now, Mr. Chairman, not only the frieze, but the statues and busts become the property of this school; and as long as they stand here, may they stand as silent but not the less effective teachers of all that is good and pure in the human heart, and all that is truest and noblest in human lives.

Mr. Charles C. Perkins, to whom Mr. Elliot referred in his address, was then called upon to explain the frieze and statuary. He said:—

Ladies and Gentlemen:—When I first saw this hall, its walls were bare, its ceiling open to the roof; nothing gave promise of its present aspect. It was like the block of marble in the sculptor’s studio, or the blank canvas on the painter’s easel,—waiting to be transformed into a “thing of beauty.” You will agree with me that it could not have been turned to a better use than this, namely,—to be made a place in which the elevating and inspiring influence of noble forms should be brought to bear upon the minds of the young persons who came hither to be educated.

In the great problem whose solution has exercised the minds of those who wished to see the power of Art brought to bear upon the American people, the question has been how and where to begin. Plutarch relates that Archimedes told Hiero, the tyrant of Syracuse, that if he could cross over into another planet, and thence work his lever, he could move the world. Now we who wish, though in another sense, to move our New World, of whose existence Archimedes never dreamt, have crossed over to the Old World, which is to us as another planet, and have thence applied the potent lever of art. Here we have used it in a small way, by means of a few casts placed around the walls of a single school-room; in the Museum of Fine Arts, we shall use it in a more complete way, by means of a great collection of casts, which will illustrate the history of plastic art from antiquity to the present time. Here we hope to work upon the young,—there to influence persons of all ages and conditions; here we depend upon the slow but sure influence of daily familiarity with a few excellent types upon tender minds,—there we shall expect to sow seed which will bear an abundant harvest in the arts, in manufactures, in manners, and in thought. Form is embodied thought, and an index to the condition of a people as regards intellectual attainment and civilization. An immense amount of the best thought of the ancients has been embodied for us in marbles, bronzes, coins, and gems, and this precious heritage is waiting to enrich us whenever we choose to avail ourselves of it. We have but to desire it, and all the best plastic works of the best periods of art will be brought to our shores in reproductions, which, though of little material value as compared with the originals, will be as potent as they could be to quicken us to a closer observation of nature, to elevate our taste, and to make us judges of beauty when they have made us beautiful in mind. For, as Plutinus says, “only the beautiful in mind can judge of beauty.”

The young people who will assemble here are but a fraction of the great public, and yet they may be of great assistance in the work we have at heart. Having learned the value of such an influence as works of art exercise upon those who live in daily contact with them, they will teach it to others. The appetite for beauty nourished here will demand food for its satisfaction at home. Parents and friends will catch the enthusiasm, and like the encircling ripples which break the surface of a lake around the place where a stone has fallen, and widen out until it is everywhere in motion, it will spread until the whole community feels its influence. Have you ever watched a cloud no bigger than a man’s hand, as it rose upon the horizon, and gradually widened out until it covered the heavens with blackness? At first the big drops of rain fell slowly from it, then faster and faster in gathering streams, until the parched earth was

deluged with sheets of water. Now this small collection of casts may represent to us the little cloud which promises that beneficent and fertilizing rain of art which is to fall upon this continent. We need it; we thirst for it; and we shall have it. These are the first drops of promise which precede the abundant shower that is to quicken our national life and fertilize the land.

The casts which adorn this school-room were purchased in Rome, Paris, and London. They were selected with peculiar reference to the place in which they were to stand; and though necessarily few in number, combine a great variety of types. The Minerva, the Diana, the Psyche, and the Amazon, are typical representations of virginal beauty; the Juno and Pudicitia of matronly beauty; the Demosthenes, the Pericles, and the Homer, represent the orator, the statesman, and the poet. The Genius of the Vatican is a type of adolescence; the Bone-player a type of grace. These casts also illustrate many styles of Greek art. The Archaic Apollo is an example of the hard, earnest, and realistic style which prevailed in Greece, and notably at Argina, in the beginning of the fifth century B. C. The bust of Jupiter Trophonius is of the somewhat mannered but delicate and refined style, which marks the work of the Archaic sculptors of the Attic school about the same period. The Parthenaïc frieze, the Caryatid, the Jupiter, and the Æsculapius, illustrate the school of ideal art founded by Phidias. The Demosthenes is a noble example of the school of portraiture, founded by Lysippus in the fourth century B. C., as is the Genius of the Vatican of that soft, sensuous, but exquisitely beautiful school of sculpture which was founded by Praxiteles, between the time of Phidias and Lysippus. Lastly, the Pudicitia, the Polymnia, and the young Augustus, illustrate the Greco-Roman school, which flourished at Rome during the early part of the empire. A caste of the Minerva Giustiniani of the Vatican was ordered at Rome, and when made was rejected as imperfect; another was ordered in London, but could not be obtained. "Invita Minerva," what could be done to compel her presence? Thanks to the generosity of Miss Cushman, the Boston Athenæum owned a cast which stands upon the platform; and permission was obtained to transport it hither for this occasion. Thus it happens that Minerva is your guest to-day; and let us hope that many months will not elapse before the present representative of intelligence and cultivation will be replaced by another, already ordered at Rome, as a permanent substitute.

Time matures slowly but surely all suggestions in harmony with human wants, and in the direction of a progressive civilization. 'Why should not the places where both teachers and children pass so large a portion of their time, be made as pleasant and attractive as possible?' asks that devoted laborer for the primary schools of Boston, Joseph W. Ingraham, after doing what he could, in 1848, to adorn the walls of the Sheafe Street Model School building (afterwards known as the Ingraham School), with engravings and vases of dried grasses. 'Why should not these structures be designed by skilful architects, erected on sites in the country commanding the priceless advantage of a fine outlook over hill and meadow, and the near surroundings of green lawn, flower beds, and shrubbery, and in the city at least, adorned with vases, statuettes and engravings?' asks Mr. Barnard, in his address at the dedication of the first decent country school-house erected in Connecticut in 1839. 'Why should not the suggestions of our own Sigourney, in that essay recently prepared at my request and read before the educational convention in Hartford (1838), on the Cultivation of the Beautiful, be at once heeded, and the experiment be ventured on of a more liberal adornment of the dwellings devoted to education?' Let us put more faith in that respect for the beautiful, which really exists in the young heart, and requires only to be called forth and matured to become an ally of virtue and the handmaid to religion. Knowledge itself will be more attractive when standing, like the Apostle with the gift of healing, at the beautiful gate of the Temple. 'Flowers,' says Galen, 'are food for the soul.'

PRINCIPLES AND METHODS OF EDUCATION.

LETTER FROM MISS ELIZABETH P. PEABODY.

MY EXPERIENCE AS A TEACHER.

DEAR MR. BARNARD, — You ask me what were the characteristic principles and methods of teaching, which gave my school such value and success as it had.

They were not new in themselves, I think, though they were original with me in that I worked them out myself, to meet such wants of the young mind as I, even as a child, felt were not met by the current system of school-teaching, to which I was in a degree subjected ; and yet they were implicitly suggested by my mother, who followed her motherly instinct in some degree with her own children, although she did not have quite self-reliance to do so with the pupils whom she was paid to instruct, and with whom she therefore felt bound, in the main, to follow the time-honored traditional system.¹ She always seemed to me an entirely different and generally opposite influence to that of all others with whom I came in contact, even that of my father, who undertook to teach me Latin, which he had begun to learn by Lily's Latin Grammar, and so thought that, since I had a grammar written in English (though very scholastic English), I ought to find out the language by grammar and dictionary, without any oral help, and on this principle never answered a question by telling me what I wanted to know.

My mother's idea of education was predominantly moral, — to fill my mind with images of kind, heroic, and thoroughly high-principled people, which her fine instinct picked out of the society around us, as well as from history and literature. For instance, when I was a child between eight and twelve, I remember a certain Quaker gentleman used to pass our house frequently, and my mother would always say, " I have the greatest veneration for that man "; and told me how he had failed in business, and though the bankrupt law relieved him from the legal obligation of paying his debts, yet in his old age he was living most economically and working most heroically to pay all these debts, because he was honest, and thought that shirking them was, in the eyes of the Heavenly Father, stealing. I remember how she would criticise some ladies that called on us who wore feathers and other unnecessary ornaments, when their husbands or fathers were in debt; and she often said there was no beauty to her even in beautiful things which were not bought out of *superfluous* wealth, yet she loved beauty, always prefer-

¹ Notice of Mrs. Peabody in Barnard's Journal of Education, Vol. XXX. p. 584.

ring the inexpensive beauties of nature, and cultivated flowers at every moment of leisure. Every kind of hollow pretension was her supreme abhorrence; all moral affectation and religious cant she saw through; and the nervous weakness of self-indulgent fine ladies she thoroughly despised. But she was not censorious of individuals nor wanting in tenderness, and referred their faults so invariably to bad education or no education, that when I entered on this vocation myself — a vocation for which she educated me, considering it the highest and the proper activity of every American woman who loved her country — moral education became to my mind the essence of all education, and I never thought of any intellectual acquisition nor of any artistic power except as subservient to moral and social ends. I remember very early in my life her giving me to read a paper in the *Old Portfolio*, a periodical we took, in which was an article on the relation of women to the interests of American literature and art, in which it was maintained that they depended on women, because men, in this new country, were necessarily stimulated to a predominant regard to the development of our material resources, and business was so complicated and international that they could not command the requisite leisure, while the work of women admitted of such arrangement and adjustment that they might give a portion of time regularly to æsthetic and intellectual culture. You will therefore not be surprised that from the very beginning I endeavored to interest my pupils in the history and moral interests of their country.

I began to keep school in Lancaster, Mass., where my parents went to live, when I was sixteen years old, and I had my brothers and sisters among my scholars, as well as the daughters of the farmers and traders of Lancaster; also the minister's daughter. My scholars varied in age from ten to eighteen (for I had two scholars older than myself). Throughout my teaching life, whether in Boston or elsewhere, I always made *human life*, as such, a leading study; but even in Lancaster I came to feel, after trying both, that it was better to begin with ancient than with American history, because ancient history was more comprehensible by the imagination and moral sense, inasmuch as the nations were more isolated and had played out their life, so that its moral meaning was more obvious than the movements of our complicated and international modern society. And for the same reason I always found biography more easily comprehended than history, and recommended for outside reading the lives of remarkable people, and especially autobiographies, of which there are so many interesting ones in English, including biographies made autobiographic by means of *letters*.

But you will ask, "What of the three R's in your teaching? were these neglected?" I think not. At first I had no children to be taught reading from a, b, c, — no scholars that did not know how to read so as to understand an interesting book; and after some little experimenting, I hit upon the following plan in order to have my scholars read

plainly and with expression. Every one was allowed to bring and read some piece of poetry or prose of her own selection, and which she wanted to read to her companions or me; and this desire made them read it plainly and expressively, for, as they were thinking of those to whom they were reading in order to interest them in what had interested their own imagination and feelings, they never read either languidly or for mere display of themselves. Thus they were taught to read by their own imagination and feelings. In regard to spelling, I used to take the book out of which they had read and ask them to spell all the words, putting out a whole line at once; thus they spelled the most common words over and over again, and acquired the habit of observing the letters as they read them, and I observed that thus they seldom spelled wrong in their own compositions. When later I had scholars who studied Latin and French, I called attention to the fact that English words followed the Latin, rather than the French spelling, and endeavored to save them from that loss of English orthography which is too apt to be the consequence of learning French. Another reason why my scholars learnt to spell without going through the old-fashioned routine of spelling lessons, which wastes so much time and does not always insure good practical spellers, was the mode in which I taught English grammar. This was not by having them recite Murray's Grammar and parse (as I had done in my youth), for I was certain that *that* was a useless thing to do. I called these lessons "examinations of words." It is easy to make obvious to any child that it is entirely important to understand words, because words are the chief means by which we come to know what is in one another's minds. What are *words*? They are the signs of our thoughts and feelings in all their minutest shades and variations. I would enlarge on this theme often. The Bible told us that *the word of God* created *things*; then God's words to us must be the things of nature, — what we sometimes called the *works* of God; every work of God was a word, because it was the means of waking up thoughts in us, and our reply to God's words is our perception of them by our senses. Then I would say, "Let us look into the book before us (which was generally some interesting poem), and first find the names of all the sensible objects." They would look along and pick out these words. I would ask by what sense they became aware of each thing named; sometimes they would make a mistake and give the name of a thought instead of a thing, and I would then confound them by asking if it had some material attribute, — if it were visible, audible, or tangible, had odor or flavor. For instance, I remember in one of these lessons some one said *day* was the name of a sensible object. I said, "By which of the senses do you know *day*?" The answer given was, "I see the day with my eyes." "What shape has a day? all visible objects have a shape." One said, "Not all sensible objects have shape, for air is a sensible object." "True," I said; "but you feel air, and when it is in motion you *hear* it, when it has

passed over fragrant or disgusting things you *smell* it. Can you touch, taste, hear, or smell day?" "I can see light," she persisted. "You can see light, whether it be day or night, for light is visible; come now, tell me what is a day?" "It is the time between sunrise and sunset." "Ah, it is time: is time a sensible object? can you see, hear, smell, taste, or touch *time*? How do you know there is time?" "By thinking that we continue to live in different circumstances and in different states of feeling, we infer it," was at last said; for I had before, in defining the word *thinking*, led them to discriminate from sense-perception the operations of comparing, abstracting, inferring, and generalizing, and they were quite clever in tracing the genesis of names of abstractions; and nothing interested them more than to discriminate the names of things and of thoughts, and then to find the words expressing *being* and voluntary actions; *relations* between things and relations of things to actions or states of being; words that stand as substitutes for names; words used to connect other words into sentences, and sentences into paragraphs; exclamations and the emotions that produced them; words expressing qualities of things and modification of qualities and of actions; discriminating modes of action, their time and places, and all without one technical word of grammatical science, which, as I had myself experienced, covered up meaning instead of explaining it. I had no pupils under nine or ten years of age, and found no study more fascinating than this to children of ten and twelve. The exercise soon roused the attention of the dullest, and sometimes transformed in a single day a seemingly dull child into a specially bright one. It was always in the form of a conversation which they saw that I was as earnestly engaged in as they were. Often the analysis of one word would lead us into a long conversation about the mind itself, and they were always so unwilling to stop that I had to make this lesson the last one in the forenoon, so that the closing of the session might bring it to an end; and it was not uncommon that they would go home with thoughtful faces, showing that they were still pursuing trains of thought that had been started. When I was in Brookline in 1825, one of the fathers of my scholars came to me, very seriously to remonstrate with me for "not teaching English grammar." I asked him to come the next day and hear one of these "lessons on words," and when he came I gave him a copy of Thomson's Seasons and asked him to select some passage for the class to *parse*. He did so, and I told the class (which consisted of the whole school from the age of nine to eighteen) to tell all they could find out of the meaning of the words, each one in turn taking a sentence in order. They did so, first naming the sensible objects and telling by what senses they cognized each, whether it expressed one or more things, whether it was *spoken of* or *spoken to* or expressed a *speaker*; whether it did or did not do some voluntary action, or if it were the object of some action or merely was a person or thing being or involuntarily acting; whether or not it was related to any other action or thing, naming the word that expressed

the relation, thus bringing out the prepositions and conjunctions without using these Latin derivatives. When they named the words expressing the qualities of things, they told whether these were appreciated by the senses or by the abstracting power of the mind; in picking out the names of thoughts, they told by what function of thought, whether by comparing, abstracting, generalizing, inferring, or imagining, the word was made, *going over the process*. Already the verbs of the sentence had been discriminated into neuter, active, and passive, by the discrimination of the nominative cases (and objective cases, where there were any), indirectly including those objects connected by words expressing the precise relation which they named without using the word *preposition*. The pronouns were named as words standing for the names of persons and things, and discriminated into their several classes, simply by telling what name they stood for, some expressing demonstration merely, some persons and things, some also relation and conjunction. Every grammatical distinction and classification was stated by the children in plain English, without a technical term; not that I do not know the convenience of a technical nomenclature in its proper place, but because I was sure it was the greatest hindrance to the *process of thought* to give a child a *word* before the *meaning* of the word was clearly in the mind: After the lesson was over, the gentleman said I had conquered his doubts and fears; that he had never passed a more intellectual hour, or received a more thorough lesson in grammatical analysis; nor was it merely this, for besides the grammatical classifications, there was involved what generally comes under the head of rhetoric, and the moral obligation of speaking the truth exactly. To understand and use language adequately, touches into life the whole spiritual nature. When, a year or two after this, I was keeping school in Boston, one of the mothers came to me and expressed a desire to have her daughter study Murray's Grammar, which, she said, she herself studied in her girlhood and understood (as I could easily believe, for she had been educated entirely in private by her father, who was a truly cultivated and thinking man). It happened that, at the time, her daughter had a half-hour some days in the week in which she had the privilege of reading what she pleased; which I made the reward of certain extra degrees of progress, for those who got a little ahead of their classes. So I thought I would try another experiment. I found the lady owned Murray's large Grammar. Her daughter, who was not twelve years old, was very expert in her analysis of words and sentences, and I asked the mother to let her bring it. I then asked the child if she would not like to take this book in the leisure half-hour and read it, for her mother had studied it in her youth with her grandfather, and very much enjoyed it. She took it, and soon I saw she was entirely busy reading it. At the end of the time I asked her if she liked it. "Yes," said she, "it is very interesting;" and she went on and read it through day after day. I then told her to take it home and let her mother question her about it; and I wrote to the mother that Elizabeth

had been so thoroughly trained in the thoughts expressed by the technics of grammar, it had only been necessary to read over the nomenclature, that in general did, I think, rather prevent than help to the substance of the meaning. This principle of cultivating thought as a preliminary to the expression of thought was the characteristic of all my teaching.

In teaching *Latin* I pursued the same method. I began by letting my children learn by heart the translation of every word in the first ten pages of "*Historiæ Sacræ*," the first lesson being *Deus creavit*, *God created*, which each child repeated; and then I asked what English words were like *Deus* and *creavit*, and thus brought out the meaning of *Deity*, *deify*, *created*, *creation*, *creature*, *recreation*, etc., leading them to make sentences *viva voce* in which were these words. The second lesson added several new words and included the first, all the words being used to conjure up English words, whose meanings were thoroughly discussed in all their shades and applications, literal and figurative.

As each lesson always included all that went before, the memorizing was not burdensome. When they had so much by heart, they began to analyze it, just as they did English; bringing out all the grammatical distinctions of mode, tense, voice, person, number, and case, without the use of any grammatical nomenclature, calling the *accusatives*, *datives*, and *ablatives* objects direct or indirect, before I called attention to the endings, which I gave them in skeleton tables on the blackboard, with the meanings attached to each ending, that they could copy and learn to add to the stems of the nouns and verbs, by frequent repetitions, with the tables of endings before their eyes. I learnt from a Jew, who taught me Hebrew in the natural way in which Hebrew children learn to read Hebrew, as they learn to talk, by following the voice of the teacher.

He said that the mind ought never to be called on to remember, because memory was not an effort of the will, but the spontaneous result of vivid perceptions when the mind was at ease; for we remember what we see better than any description of it in *words*, and we remember vividly in proportion to the degree of emotion a perception awakens, or the frequency with which we dwell on it, whether it is an object within the mind or outside of it. The first memorizing exercises should be of things obvious to sense-perception, and the way is, to repeat the sense-perception, especially when the emotion the thing awakens is not vivid. Hence the earliest teaching should be of *things*, and the teacher should present things *in their true order*, and lead the children to talk about the details of the appearances, and observe their differences and analogies, the basis of classification, — the tendency to which is observable in the youngest children, — a tendency that should be helped out by sympathetic assistance. Language is the first thing which children should be exercised in and understand; but they should be taught in the natural way, that is, to *use it* to express the thoughts and feelings they have, and the things they see and know. By analyzing words and

sentences in my way as above described, quite young children may become acquainted with their own mental machinery, and use it for self-direction, and so be prepared to discriminate truth from falsehood, and to have at least subjective truth. It was my misfortune, at the beginning of my career, to have so little knowledge of natural history; the symbolic meaning of nature was out of all proportion in my mind to an analytic science of it. It would have been very bad if my scholars had been younger, for I always found that I could interest children in whatever interested me, and my natural turn of mind was towards spiritual truth and mental analysis, which leads children to too great subjectivity, unless balanced by objective science. But I learnt from Warren Colburn, in 1822, how to teach arithmetic, which, strange to say, was a very different way from that which has been based on his First Lessons in the New England schools. It was the greatest misfortune to the cause of education, that Warren Colburn was tempted by a salary of \$10,000 to leave his divine vocation of teaching, to be Superintendent of the Lowell Mills, though he did a great work in the arrangements he made in Lowell for the workpeople, to prevent the moral evils which had cursed the manufacturing towns of England. But I think some other man might have done that, while he only could have prevented the wrong use of his book in teaching arithmetic. For Warren Colburn had Froebel's idea, that children should be *led to discover* everything, by the guided use of the faculties designed by God for the acquisition of each subject-matter in question. Arithmetic is the exercise of the powers of calculation, and never a matter of memory, at *any* stage. There is a time before the mind can appreciate *numbers*, for number is the complex idea of equally divided unity. In teaching children to count, we are apt to point to a series of units and say one, two, three, four, etc., when it is only one, one, one, etc. The true way is to make a series of collected things, — for instance, one bean, two beans, three beans, etc., — and then ask which is one, which is three, which is two, etc.

It is best to proceed gradually. Let the child analyze the two, divide it and put the parts together again; take one away, see what is left, and then add it on. Here you have the operations of dividing, subtracting, and adding. Then point to the three beans and name the collection three as a whole; take one away, and the child will see that two is left, put it back again and restore the unity of three. Then take two away and leave one. Point next to the four beans and tell the child that is *four*. Divide it into equal parts, and the child will see it contains two twos, add them together again and ask how many twos are there in four, and lead them to see and say "Two and two are four," or "Twice two is four." Then take away one and see what is left, put it back and say, "Three and one is how much?" Then take away two, and see what is left, and call attention to the fact that subtraction is a gradual form of division. Thus thoroughly each of the nine digits should be treated, and the four fundamental rules of arithmetic discovered and made a part of the mind.

Mr. Colburn told me, that, should he make his book over again, he should put the last section of each chapter *first*; and he was very particular that the scholars should have the question before them and not be required to remember it, which, when the problem to be solved is a long one, requires a great effort of memory, utterly out of place when it is desirable to have the calculating powers wide *awake*: he also thought it desirable for the children to have sticks or beans to help their calculations; he wanted them to be allowed to take their own methods first, but when these were especially roundabout and clumsy, to suggest shorter methods, and thus get them to appreciate the rules of the best arithmeticians by formulating them themselves, as it were. I followed his advice, and all my scholars became good calculators and *loved arithmetic*. Ciphery I began later, with giving the principle of decimal notation, which can be made a very fascinating lesson; and then I made them set down in figures the processes they had gone over mentally, using the signs of addition, subtraction, division, and multiplication, as is done in Colburn's Sequel. Also I presented geometry, plane and solid, interrogatively, as it were. Mr. Grund made both his books for the purpose of carrying out this method of mine, which he approved; but he said it would be a great waste of time to have children actually discover, without the help of previous suggestion, the best definitions and demonstrations. So we took up the subject interrogatively, first eliciting the axioms *in toto*, and putting the propositions into the form of a question instead of making them assertions at first, and if they did not find self-evident the answer, drawing on the blackboard a diagram to prove it, or if they answered from intuitive perception, as some children would, requiring them to prove it by diagrams of their own. But here how I should have been assisted by Froebel's Gifts, which give to children's senses so much geometrical science implicitly, when their minds are in the ease of spontaneous play! To illustrate solid geometry I had Holbrook's box of blocks, with their divisions and subdivisions. But since I have known Froebel's first six gifts, with the supplementary planes, sticks, and points, I have often thought how Colburn or Grund would have appreciated their inestimable value in giving habits of mind that could make the discrimination of demonstrated truth from mere sense-impressions; saving the children from taking a chain of vivid perceptions for a chain of reasoning. It was my desire not to make strong impressions upon them of my thoughts or the thoughts of anybody else, but to help them to find out whether what they were impressed with *was true*, that is, was the divine wisdom. I found it very much deepened their intellect and quickened their study of geometry to suggest that "God geometrizes" (as Plato expresses it), and that in their mathematical thinking they were, as it were, creating with God, for God's thinking is creation; and would tell them that always they must tell me if they did not feel the demonstrated proposition to be as true as they felt the axioms to be self-evident; and if not we would

go over the ground again, and sometimes I would call on some others, who had gained the truth, to say how they had demonstrated it; for I made the exercise *social*, because my way was to make the *study* of a lesson, not the recitation of it, our chief business.

From the beginning I had an understanding with the parents that the children were to study their lessons with me, and not at home. The duty of the teacher, I thought, was to see to the formation of right habits of mind in dealing with nature, with themselves, and with others, and when they had made any acquisition, the recitation would be a corollary. But perhaps I made too little of the recitation, since it is not only necessary to know, but desirable readily to communicate what we know. I was, I think, sometimes satisfied with perceiving that they knew what they were learning, while I did not want them to think that glib recitation was a proof of it. I made the exercises in composition a means of determining what they knew, however. The subjects of composition were the substance of our conversations upon duty, language, history, biography; and frequently I gave out a few questions and asked them to make their compositions involve answers to them. If they had anything they wanted to say especially, they could do so, but if not they could record what they remembered of the conversation. I thought this would produce conciseness of expression, and was better than to lead them to spin out in many words a few notions on some subject that might not interest them. In some more private teaching of young children who were not yet expert in the use of the pen, I would propose to write out for them what they would dictate, some story or description of some scene, and thus I often got original beautiful things from very young children, — in one instance a fairy story which Mr. R. W. Emerson pronounced worthy of taking a high place in the fairy literature of the world; and this from a little girl of six, who in her maturity received the highest expressions of praise in passing the Harvard examination. The mere difficulty of the mechanical operation of writing checks the act of composition, and I think this method of dictating is a great aid in the education at this early stage.

The teaching of geography is now so much improved that it is hardly worth while for me to detail my contrivances. I was taught geography in school better than anything else. I began to study it just as the School Atlas was invented, and the way it was used was a better one than obtained afterwards. The maps had a great many names on them, and there were questions. But we always had the maps before us, and when we were asked the question, looked to find the place and would tell its latitude and longitude. These were illustrated in my mother's school by a terrestrial globe, which also gave us the advantage of estimating the relative sizes of countries, which are often hopelessly confounded in children's minds by the *different scales* of the common atlases. But it was a very good way to have the places on the map always before our eyes, and see their relations to each other; and in going through and

through the geography, year after year, *these maps* became indelibly impressed on our minds. The disadvantage was that our imaginations were not exercised to conceive of the actual surface of the earth, and the name of Switzerland, for instance, instead of bringing up the majestic mountains, glaciers, etc., which it should do, only suggested a little triangular form on the map, full of printed words. In my teaching, besides using atlases and Fowle's questions on the maps, I had the children draw blank maps, and color the boundaries; but I endeavored to illuminate or irradiate the mere lines by reading to them Worcester's Sketches, made up of extracts from travels which gave picturesque descriptions, and, after reading, would ask them *what they saw in their minds*. Here, as in everything else, I tried to give impressions of things, instead of letting the children's minds *rest on words*, as they do when committing books to memory, while the imagination is idle. My mother's plan was to have her scholars imagine themselves to be travelling, and to write letters from the different places at which they stopped, describing what they saw by means of the Gazetteer, and such books of travel as they had access to, — Morse's and especially Aiken's Geography (which is a beautiful book, that taught me more than any other of the surface of the earth). That book was out of print when I taught school. The most valuable work I had, in the last years of my school-keeping, was Darby's Physical Geography of the United States. I suppose Guyot's works are all that can be desired now.

As to natural history I was altogether behind this age in method as in time. But my scholars studied Smellie's Natural History and read aloud Audubon's Ornithology in an edition without the plates. And we read aloud the Scientific Dialogues on physics, also Conversations on Chemistry, and in 1832 I read to them Arnott's Physics in the English edition, before it was published in this country. One of the pupils found it in my library, and after consultation with the rest of the class, which was then not more in number than sixteen, proposed I should read it to them, as there was but one copy in the country. The plan of the book is this: first a series of facts are stated which illustrate a law; and then the law is formulated. I read the facts and gave them the opportunity of deducing and formulating the law; then the formula of Arnott was given and they wrote it down. A mathematical demonstration followed, which they would often anticipate as they or I drew the diagram. I had my school then in my parlor, when I boarded with Mrs. Clarke in Somerset Place, and Mr. Mann first came there to board, and I remember it was my telling him of this lesson that first drew us together to speak of education, founding our subsequent intimacy. I remember he said, "This is an uncommon style of school-teaching." I had my pupils in no instance more than seven years, and therefore they did not go into the higher mathematics. In all departments it was not so much any great amount of acquisition that I aimed at as to give them true methods of study, adapted to the

subjects studied. Many of my scholars had the finishing of their education, as it was called, with Mr. George B. Emerson, and other highly esteemed professors, who devoted themselves to female education in Boston; and these gentlemen always expressed especial pleasure in my pupils becoming theirs, because they "knew how to study and how to behave, and were always so agreeable in their manners." "What do you do when girls are impudent to you?" said Mr. G. B. Emerson to me one day. I replied that I did not remember any instance of any one being impudent. "You amaze me," he replied; "they are very frequently impudent to me, but, as I remember, never one of yours was so. How do you manage them?" "My secret is, I think, that I never undertake to manage them. I have no power of commanding. I never do command children, but am very respectful and courteous to them, and throw myself on their mercy, as it were, by telling them of the obligation I am under to their parents and to God to help them educate themselves. I take great pains not to reprove or exhort them before each other, but only in *tête-à-tête* or by writing a note to them. The relation has no antagonism in it, but is altogether sympathetic. I recognize what is done wrong as a misfortune that they are grateful to be helped out of, and when an occasion calls for my sympathetic help, it generally serves to unite us in a very tender bond of friendship." If they were contumacious I proposed they should leave me and find somebody who could help them, but I found it the most difficult thing always to get rid of a scholar in this way.

Another principle of my discipline was to avoid exciting a spirit of rivalry, and to have no emulation. I had no marks of merit, no going up or down in classes, and required the whole recitation from each scholar, which at first would seem the longest way, but proved in the end the shortest, because it was so absolutely thorough, and it almost precluded the necessity of repetition and review. In short, I *lived with* my scholars, as Froebel says we should always do with our children. At the time I was very much worried lest I was not doing the best thing for many of my scholars, who, since they have grown up, have comforted me with what they have told me I did do for them. They were always writing to me as to a confessor, to get my moral and spiritual advice; and if I ever do get time to write the reminiscences of my life, I shall be able to enrich it with many letters of these lovely young souls with whom I *lived* so long. In the last half of my life my teaching has been occasional only, and largely of the grown-up, who had, as they felt, outgrown school discipline. By association with many superior teachers I have been able to add to and improve my methods, and my sister and I have worked out and proved by experiment the feasibility of a method of teaching how to read English that is published in the primer I have entitled "After Kindergarten What?" and which Professor Whitney and Dr. Thomas Hill have accepted as scientifically correct. Our experiments of thirty years have proved it to be the most rapid and easy method,

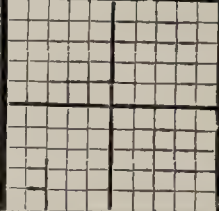
precluding all pretext for phonotypy or any radical change in English orthography.

From Dr. Kraitsir I learnt the origin of words by classification of the consonants, and their meaning derived from the symbolism of the organs which utter them, still traceable in the words of all languages beneath the superficial by-laws that have transpired in the confusion of tongues occasioned by the mutual misunderstanding and consequent division of nations; and from Professor Schoeffer I have lately learnt the meaning of *vowels* unconsciously preserved, and bearing witness to the unity of mind which underlies all the differences of nations. But I wish to speak of my method of teaching history, for I think there is no study so important to the higher education of women as this, and I think so for more reasons than I have time to give here, but some of which I have stated in full in the Introduction to my Manual of Universal History in illustration of the Polish-Franco-American Charts of Chronology.

It is true I had not these charts while I was keeping school, they having been brought into the country as late as 1845 by a Polish gentleman, who planned to lecture upon the study of Universal History as a more important part of education for Americans than it can be in any country whose people as such have not so direct a power of making their country's history as the self-governing American. But he could only lecture in French, and as that could not be understood by the general public, he brought the charts to me, and told the history of the origin of the method in Poland, and of the introduction of it in 1832-40 into the higher schools of France by General Bem, and, as he told me, it was also introduced by Polish exiles into Oxford and Cambridge, England. As I was thoroughly principled against every system of artificial mnemonics, I at first repelled Mr. Podbielski's suggestion of using any Chart of Chronology in the teaching of history, because, as I told him, the only way to know history was to take it up at the most interesting epochs of each country's life, and by interesting the imagination in the leading actors, and their aims, induce students to inquire into the original development and growth and decline of the several nationalities. I could never recollect dates myself, and had found that those most vitally interested in history could only get a general relative idea of chronology; and it seemed to me a waste of time to spend it on absolute and minute dates, for history educated us in the powers of men and their responsibility to their times all the same whenever its events might transpire. I repeat now what I said then, because the same views are often expressed by the best teachers of history now, such as Mr. T. W. Higginson and others, who, like myself, consider the history of mankind even a more important part of education than natural history, although the latter is unquestionably important, and especially adapted to the era of child life, when the whole subject of study must be brought to sense perception. But I found that to study history topically is beyond the

possibilities of school study. I attempted it in my first school at Lancaster, and gave half the day first to the study of American history in Miss Hannah Adams's book, which is written on the plan of the history of Israel in the Bible, to illustrate the interaction of Divine Providence in the moral development of men and nations. But so much of American history, in order to be understood, needs the knowledge of other European histories, especially the English, which I felt could not be known thoroughly except by the mature mind, that I went back to ancient history, which can be presented to the imagination in the wholeness of the several nations, and made interesting by the biography of the leading actors, as they are represented by Herodotus, Thucydides, Xenophon, Livy, Plutarch, and some modern historians, from whose works I selected the most striking chapters (for seldom is a modern historian worth reading except in parts). When I went to Boston to keep school, I found that so much time was required for the study of languages, especially of French, that it was quite impossible to do any justice to history in the school period, and contented myself with giving my pupils so much only as to create a taste for reading after they should leave school. But were I to keep school again I should use the Polish charts as I finally amended them in the dating, and illustrated with historical sketches as in the last edition of my Manual. For I have found that it is possible for grammar-school children, certainly for the high-school class, to master the outlines of human history without any agonizing effort of memory; as time is represented in these charts by a symbol to the eye even better than space is represented to the eye by the maps of the school atlas. For the maps are made on different scales, while the chart, whether small or large, represents the field of time divided into centuries, and the centuries into years, in such a uniform manner, that as soon as the principle of the representation is explained, a child of eight or ten years of age can identify any year of twenty-five hundred that the teacher points to, by a mental calculation so simple that it is, as it were, a sense perception; for instance, to represent the Christian era there are four rows of five great squares, as seen on the next page.

The eye can command the number five so easily that, on pointing to either square of this block, the scholar will name the century. Each of these squares is then subdivided into ten decades by drawing nine horizontals, one of which shall be broader than the rest, so as to divide the first fifty years from the second, and relieve the eye from an attempt to command more than five decades in a glance. Nine vertical lines will then divide these decades into years, and the two fives of each decade can be divided from each other by another broader line. Now, if the teacher points to a little square and asks, "What year is this?" the learner first counts the squares from the upper left hand that come before the square pointed at, and says how many centuries before this century, which is instantly seen (say it is fourteen). Then the teacher says, "Fourteen hundred and what?" The pupil counts the rows with the

1st.	2d.	3d.	4th.	5th.
6th.	7th.	8th.	9th.	10th.
11th.	12th.	13th.	14th.	15th.
16th.	17th.	18th.	19th.	

eye above the row pointed at, and, supposing it to be five, says fifteen hundred and fifty what ? and, supposing the date to be 1558, the pupil counts three to the right of the broad vertical line on the sixth row. In the small squares events are indicated by colored squares or triangles, a different color being used for each nation; and the class of event is indicated by the part of the square in which it is represented. Thus the succession of striking events in a nation's history can be represented to the eye, and the synchronistic events of other national histories will be seen in relation without effort of recollection, for they mutually help to fix each other.

As Mr. Podbielski only brought a chart of twenty-five centuries before Christ, and one of the ten centuries of the Middle Ages, I undertook to make a chart of the nineteen centuries of the Christian era representing the history of the whole synchronistically, and I was amazed to find how much better I understood the history, without reading a single word more, merely by seeing how these events bore on each other. I then fully realized that Chronology was indeed one of the Eyes of History (Geography being the other), and that the *time* of an event gave it an essential element of its meaning. As soon as I mastered the secret power of this representation of time, I hastened to impart it to others. I showed and explained it to Mr. George B. Emerson, to Dr. Barnas Sears, and Mr. Longfellow, and others. I had the chart of ancient history in which it was necessary to count backwards from the lower right. There were only a few Egyptian, Hebrew, and ancient Greek dates on the three upper rows of centuries, nor indeed till the eighth century B. C., when the Olympiads and the Roman History began, and Sardanapalus's empire was divided into Nineveh, Media, and Babylon, all merged in

Persia in the sixth century, when begins the written history of the Grecian, Jewish, and Roman nationalities, in which specific dating becomes important. I would lay the chart down on the floor and ask gentlemen to tell me what was their impression as to the comparative time between Lycurgus and Solon, and Solon and Socrates; and more often than the contrary, they would say there was less time between Lycurgus and Solon. I would then point to the respective years of their births, and immediately it would be seen that the source of the difficulty of remembering dates was the irregularity of the intervals between one date and another, when there was no continuous narrative, and I never failed to convince *every person* and every school-committee to whom I showed it, that by such a planned chart as this, and no other, could chronology be presented to the mind so that the field of time should become a sense perception of the correlation of the contemporary histories of nations.

The plan of committing the chart to memory, which the French teachers devised, was to have the pupils copy in blank charts, with the color proposed for each nation, the series of pivotal events in each nation's history, beginning with the Hebrew, and then listen to or study out a narrative connecting them. As one nation after another was painted in, the synchronism was made visible, and at last the whole web was woven. In no private school into which the chart was introduced has it ever been abandoned. But in public schools it did not go well on account of the want of time to oversee the painting, which, if done mechanically, and without learning the connecting narrative, became useless; and, more than that, the expense of furnishing the paint was a difficulty that proved insuperable. Since then I have learnt that the method used by the Poles themselves, who taught it at Oxford and Cambridge, was a different one. The recitation consisted of telling in what little square, of what row, of what century, the date was represented; thus, supposing we should ask where is represented the driving out of the Hycsos by the king of the new Egypt, the answer would be in the sixth row to the left of the central line of the second great square of the third row of centuries, counting from below, that is, in B. C. 1645. This method required no reproduction of the chart, but only a study of the lesson in the presence of the mural chart. Count Zaba, who brought a chart of his own to America in 1871, made a great impression with it in Canada, Chicago, Boston, and Cambridge, by proposing this mode of using it. But his charts were very inferior to mine, as he had the old Jesuit chronology of ancient history, and mine was corrected by the discoveries of Bunsen, Rawlinson, and the Egyptologists, who have solved so many difficulties by finding the true date of Moses. If I were twenty-five years younger, I would renew the effort I made in 1850 and the few years after, to universalize this method by carrying it over the States myself, which was interrupted by the War when it was in the full tide of successful experiment; and I still hope, before I die,

to set it a-going by enlisting some one as enthusiastic and persevering as myself to do it.

But I must tell you of what I did to teach history in the twenty years after I left off keeping school. Before I knew of these charts I had come to the conclusion that history must be studied after leaving school, and that in women's education it should take the place that law, medicine, or theology takes in the liberal education of men. My classes met me twice a week, and took the shape of Historical Conferences. For instance, I will describe one of the several I had in three different cities. The term was six months, admitting of fifty sessions. I proposed to take up ancient history before the eighth century, when there was no pretence anywhere of a historical record of events, and little biography of persons except in the old Hebrew Scriptures, but history was to be guessed out by researches among ancient monuments. The text-books I used were Heeren's Researches in Ancient India, Persia, Babylon, Egypt, Ethiopia, Phoenicia, and Ancient Greece; Layard's Nineveh, Landseer's Cylinders of Babylon, Karl Otfried Müller's History of the Dorians and his work on the Etruscans. There were enough ladies in the class for each to take a separate country, concerning which she read as much as she could at home between the sessions. We met at ten o'clock, and each lady put into my hands a few questions that she had written to guide me in bringing out from her what proved a lecture to the rest, who in turn all lectured to her, and thus was brought before us all that was going on in these several civilizations, more or less isolated from each other. My part was to put in the Hebrew life at the time, and help to compare these contemporaneous developments of humanity so far as the antiquities accessible serve to elucidate it. The plan proved a great success, and our sessions sometimes were prolonged for four hours, so interesting were the conversations. The ladies made their recitations in answer to the questions either *viva voce* or by abstracts, or read extracts from books. Müller's Etruscans being in German, the accomplished lady who took it made a free translation of the whole of it, which I still possess, for she is dead. The next year another conference took up the eight centuries immediately before Christ. Our text-books were Herodotus, Thucydides, Xenophon, Livy, and Plutarch. We proceeded contemporaneously with the divisions of Sardanapalus's empire, the Israelites and Jews, Persia, Greece, and Rome, sometimes taking a century, sometimes half or quarter of a century, sometimes a decade, and after the recitation or abstract, to aid which I wrote and printed my Keys to Grecian History that consist only of questions, we would converse, and I read to them K. O. Müller's history of Greek Literature, some of Augustus Schlegel's lectures on the Greek theatre, Mitchell's Introduction to Aristophanes, Xenophon's Memorabilia of Socrates, and Plato's Eutyphron, Apology of Socrates, Crito and Phædo, and I think we took some extra sessions to read translations of the Greek tragedies. There were some of the Harvard students, brothers and friends of my

scholars, who came to me *sub rosa* while this conference was going on, and asked my advice as to their historical reading, who followed out this course and read the tragedies, and I advised them to read the Greek historians and Livy in the originals. There was at that time no Professor of History in any college in the United States, — it is better now, — and President White's historical courses at Cornell University have made a great opportunity for its students. I will only speak of one more of my Historical Conferences, and that was the one on the eighteenth century in 1844.

We began by taking five years of the century, and the class was so large that there were two ladies on every country, — Prussia, Austria, Russia, Sweden and Norway, Denmark, France, Spain, Portugal, Italy, England, Scotland, British India, and America. Political, literary, and art history were in order; everybody was to bring what was most interesting in the country during those five years they undertook to study carefully, and when we came to the French Revolution all the world seemed to come into relation with France or stand still to look at her. Then I took up Carlyle's French Revolution, and read an hour each session, and we spent two or three hours in hearing all that the class brought out collaterally from the numerous *memoires à servir* that they found in the Boston Library, which owed its origin to the intense desire of Bostonians to know all about the French Revolution at the time of it. After I finished Carlyle, I read Hazlitt's Napoleon Bonaparte, and the young ladies supplied contemporary matter from the various standpoints they had taken. We brought up the history to the year of Lafayette's visit to America in the course of the six months.

I have been particular in speaking of these conferences in such detail, because I would suggest to ladies, especially women's clubs, to have them, year after year, on the same social plan. As the art of life is the universal vocation of woman, history is what woman should read from youth to age, whatever else she does.

I could improve on the second conference I mentioned, adding to the text-books Karl Otfried Müller's second volume of Dorians, and Grote's Greece. I would also add to the first conference as text-book Bunsen's Egypt and Burnouf's Aryans (which is in French).

One conference could take the first fifteen centuries of the Christian era, with Sismondi's Decline and Fall of the Roman Empire for a thousand years as text-book, and Gibbon bringing the history up to the fall of the Eastern Empire. For the rich periods of the fifteenth, sixteenth, and seventeenth centuries I never had a conference, though I desired to. I had only four in all, — two in Boston in 1833 and in 1836, just before I went to Salem for a few years, and two in 1844 and 1845, after I came back to Boston again.

In 1848 I wrote the "Dorian Measure," which I published as one of the *Æsthetic Papers*, and in 1854 I wrote a paper on the "Primeval Man," which Dr. William T. Harris is now publishing in the *Journal of*

Speculative Philosophy. In 1866 I read this paper to a company of my old scholars and some other friends in Mrs. J. Quincy's parlor, and they begged me to give a course of lectures, further to illustrate the idea, and I wrote twenty lectures at that time, the plan of which was to take each of the great civilizations of antiquity — China, India, Persia, Babylon and Assyria, Egypt, Ethiopia, the Hebrews, Greeks, and Romans — as so many experiments of mankind for self-recovery from a fall from primeval civilization, which I conceive to be a historical event that took place countless ages ago, in different degrees, some breaking off or driven off from the original magnificent development and organization of society till they became the fools of nature and descended to savagery; — evidences of which are now turning up, and suggesting to microscopic investigators into nature the idea that these dregs of humanity are its germs; and that the sons of God who have glorified human history were self-evolved from earthworms !!

These lectures were very imperfect as literary productions, but there was something in them that so far interested my audiences that I repeated them many times by request, and in the parlors of my friends in several cities; and I was so well paid for them that on the money I made my visit to Europe, which seemed to me the "wandering year," closing my apprenticeship to life, and from which I returned enriched with the knowledge of Froebel's method of Education, to the diffusion of which in this country I have devoted the last fifteen years of my life, finding it more and more, as I see its successful application, to realize the dream of my youth, which was to see American Education redeem humanity, more and more forever, from the fall to which its freedom to will makes man liable, so long at least as he sojourns on earth, — a terrible liability, but of which our freedom to love, *correlative with it*, is boundless overpayment.

ELIZABETH P. PEABODY.

LETTER FROM MISS E. P. PEABODY.

My dear Dr. Barnard :—I wish you would show historically the influence which even a few families of superior culture exert on the education of a community. Not a few of the early colonists, women as well as men, shared in the same culture and the same responsibilities which made such sterling characters as illustrate the annals of the English commonwealth. Many such families in New England kept up close intercourse with their friends in the old homes which they had left, and partook of the same intellectual life, reading the same books, listening on Sunday to discourses of the same type which taxed the reasoning powers of the listeners; mothers teaching or superintending the education of their own children.

I know that my mother had this kind of education. Her grandfather Palmer came out to America in the early part of the eighteenth century (about the same time that Oglethorpe went to Georgia), with his cousin and brother-in-law Richard Cranch who married the sister of Mrs. John Adams. I remember her telling me that she never remembered the time when she did *not* read Shakespeare, and I have a vivid picture of her as she described herself lying on her stomach on the floor of her grandfather's study, in Germantown, reading from the old *Folio*, aloud to her grandmother when she was four years old. The house and farm was bought for and forms "the snug harbor," in the vicinity of Boston. Germantown was a part of Braintree, so named from the company of German manufacturers of glass and other things, that the cousins brought out with them when they came, and who were not scattered till the Revolutionary war, in which General Palmer took such ardent part that it entirely wrecked his business and fortune. His only son was a graduate of Harvard College at nineteen years of age, together with an English cousin of his, who was sent over to be educated here; and my mother was one of his nine children, every one of whom, at least the five girls were highly cultivated women, though they grew up amid the sacrifices of the Revolution, and none of them went to school, but were pupils of their father, brothers, and grandmother in English literature and composition. Three of them became distinguished teachers of young ladies, Mrs. Curtis, Mrs. Putnam, and Mrs. Peabody (my mother). I want to speak of *her* school because it had real merits that seem to me to be wanting in modern schools.

The aim was History and Literature, beginning with the English, but extending backwards, to the history and translated literature of Greece and Rome. The qualification for entrance was to *read English intelligibly*; and her youngest scholars were eight and ten years of age. They were taught to cipher arithmetic; to write swiftly; geography, first in Morse's and Aiker's geographies, afterwards by maps; drawing blank maps, as they were called, where the names were omitted and the boundaries of the states indicated by colors. One nice exercise in geography was for the young ladies, who could write, to go on imaginary journeys, and date letters from cities and other places which they

were to describe, and which involved consulting gazetteers and books of travel. She paid great attention to English composition. She taught Murray's English Grammar, Blair's Rhetoric and Kaimes Elements of Criticism; and gave exercises on the various *figures of speech*, so called, which the pupils might extract from books, or originate. Other composition exercises were biographical sketches of eminent persons, which required them to consult interesting books of memoirs, Plutarch's lives, etc. She would give them a few questions after they had prepared themselves by reading, and required that answers to these should make a part of the composition. These *compositions* were the only things she required them to do out of school hours. All the *lessons* in Arithmetic, Grammar, Geography or the elements of physics and natural science were studied in the three hours' morning session.

The afternoons,—four in the week,—were devoted to reading History and Literature. We read Goldsmith's Histories of England, Greece and Rome, on two afternoons in the week; and on two others, the great works of literary art, the Iliad and Odyssey, Tasso's Jerusalem, etc. The best readers had the privilege of reading, while the others did plain sewing that would occupy the fingers and not employ the mind. There was a good deal of conversation about what was read; and part of the time was taken up in reading papers that she selected for their beauty or interest, from the *Spectator*,—*Rambler*, and sometimes from the *Edinburgh* and *Quarterly Reviews*;—and accounts of books from the old *Monthly Review*—an admirable kind of periodical, that has completely gone out of fashion. Whatever was charming that she had ever read, she used to read or have read to the class, in order to form an enthusiastic taste for good literature. Sometimes she read her own translations into modern English, of Chaucer and Spenser. I have in manuscript a rendering of the whole of Spenser's "Fairy Queene" from her pen; and in 1839 Otis Broaders & Co. published the whole of the "Legend of St. George" (Holiness); and Rev. J. F. Clarke began to publish in the "Western Messenger," the "Legend of Sir Guyon" (Temperance).

My mother began her teaching at the North Andover Academy about the year 1800; one of the trustees being interested in her favor, by reading her contributions to the poet's corner of the Haverhill *Gazette*, and hearing that they were the productions of the adopted daughter of Mrs. Parson Peabody of Haverhill (a sister of Mrs. John Adams and Mrs. Richard Cranch). She was called "the walking dictionary" by the pupils of the Atkinson Academy to whom she appeared to be an exhaustless mine of knowledge, and who used to go to her to get advice about their compositions. In 1803-4-5, she had a boarding-school of her own in Billerica, while my father was studying his profession. There I was born in 1804—being as it were pre-natally educated for the profession which has been the passionate pursuit of my life. In 1806 my sister Mary was born in Cambridgeport, where they resided for a year that my father might attend the medical lectures in Boston.

In 1807 she took charge of the Lynn Academy,—and in 1808 moved to Salem, where she kept school with one short interval till 1818.

One reason why she gave her pupils no lessons to learn out of school hours was because she taught neither drawing, music, nor the languages; but those of her scholars who wished to learn these things, took lessons of special masters. She did, however, herself draw and even paint, and we all began to learn these things out of school hours from her.

She also sent me an hour or two every day out of school into my father's study, to learn Latin of him, and she gave me the memoirs of many very learned women to read, such as Mrs. Elizabeth Carter, Madame Dacier, Miss Elizabeth Smith, Mrs. Somerville, and Mrs. Elizabeth Montague; and expressed her admiration of Miss Maria Edgeworth, Mrs. Barbauld, and Madame de Stael, who broke the way of authorship for women. The idea that women were less capable of the highest education in literature and science, and of authorship on any subject, truly never entered my mind; and I remember the start of surprise with which I read the first call of a convention to speak of Women's Rights in 1837. It was sent to me to sign, and I replied that it seemed to me women could take and were allowed to take any course they were fitted for, if they chose, and I said that I would change the title Women's Rights for that of *Women's Duties*, which, if thoroughly understood by them, would involve their having the correlative rights, without anybody's disputing or hindering. I thought it was a pity to make any question of woman's having a right to share the government, when such sovereigns as Elizabeth of England, Isabella of Spain, Catherine of Russia, and Maria Theresa of Austria, had reigned undisputed, and commanded, as they listed, the most distinguished men of their day. If they had fallen out of American politics, it was because American politics had fallen out of the *moral sphere* into a corrupt hierocracy.

But I have ever since been learning that the Woman's Rights party was an inevitable protest of those who had forecasting thoughts against laws, customs, and growing sentiments that operated to degrade woman and make her secondary to man in the serious work of life, which ought to include *noble politics*,—the highest interest of a free self-governing nation requiring the responsible activity of every man and of every woman, too; and that, therefore, they should have equal education. And, moreover, since education for men has become scientific as well as literary, it should be substantially the same for both.

But I grieve that education, at this era, both for men and women, is not adequate to the demand of American politics, because character is not the educational aim so much as natural science; and I think it is worth while to look back upon the better class of schools for women of the past, and in adopting new things, not, at the same time, to lose the *old*. As we build higher let us sink deeper. As instruction is extended let *education* not be neglected. It seems to me that the self-activity of the mind was cultivated by my mother's method in her school. If not so much was poured in—or rather on—more was brought out.

I will tell you how she managed, in consistency with her most cherished idea that a young child should never be left to the care of ignorant hirelings. In every instance she invited into the family some refined lady, who was desirous of more literary education, that she might herself keep school. This lady was to have the care of the child during the six school hours, and the rest of her time to study and read and recite to my father or mother, and share all the life and society of the house, which was always much frequented by the cultivated people among whom we lived.

She also always took one or two poor young ladies into her day school *gratis*, who sewed for her in the afternoons while they listened to the reading. Thus she had her sewing as well as nursery work done "without money paid," and made friends of many fine women, who have subsequently filled high positions as teachers, or as wives and mothers, and exemplified that even in the most difficult circumstances, "where there is a will, there is a way."

When I was yet quite young my mother gave me to read an article in the old *Portfolio* upon woman's function in America, in which it was shown that in this earlier period of our history, when our material resources were to be developed, and an unlimited career of activity in this, was opened upon *men*, the higher interests of society must be cared for by women; that is, literature, art, and all the virtues and graces that make society progressive spiritually, morally, and intellectually. This was because woman's work, being domestic, and uniform, could be arranged so that she could get leisure for these things, while man's business being implicated so much with public events no individual could control, left men no time they could call their own, and there was no order of men here as there was in European societies who had *leisure* as an inheritance.

I think this idea of the paramount importance of woman to American civilization was with her the governing principle, and she wished to impart it to other women. The history of New England, by Miss Hannah Adams, was the first she gave in the historical course. She used to say it was the only history in modern times that seemed to be written on the principle of Sacred History, and loved to compare Abraham going farther from the despotism of Babylon into the wilderness to plant a family by which "all the families of the world were to be blessed," with the Pilgrim bands, who left the despotisms of Europe to plant a nation of freemen, by which all the nations of the earth were to be finally blessed.

Born and brought up in the midst of a family all of whom devoted all their means to their country, in its birth struggle, she looked upon national life as God's education of mankind, and it was the pattern on which she modeled the education of every citizen.

I therefore breathed in, from my mother's arms, the idea, which Fröbel has at this late day embodied in a system, which is at once the high school for mothers, and the primary education of humanity.

REMINISCENCES OF SCHOOL LIFE AND TEACHING.

BY MRS. MARY PEABODY MANN.

LETTER TO HENRY BARNARD, LL.D.

I BEGAN to teach school when eighteen years old, succeeding my sister, Elizabeth P. Peabody, in a school of twenty-five pupils, in the town of Hallowell, Maine. Happily, most of them were too young, and all too ignorant, to note the disparity between us. I had never been to school, except a little while to her, but had grown up in the atmosphere of education; for both my parents were teachers up to the time of their marriage and a little after it; and I was in the habit of listening to my mother's views upon the subject, — which were quite original, for she had been educated chiefly in the home circle and by herself. I had often heard her say that she thought emulation an unworthy motive, and never wished her children to study for prizes, but simply for the love of knowledge; and this was always a ruling principle with my sister and myself, and we were never disappointed in the adequacy of the nobler motive. But my sister had been a student while I was not; for I was an invalid (not by nature, but by accident), and turned out of doors to seek health and escape the drilling of lessons. My curiosity for knowledge, however, was great. I learned to read so early that I have no recollection of the process; and luckily there were not so many books for children in those days. The few I had were superior, among which were Berquin's exquisite tales, finely translated into English, and illustrated with pictures of children dressed in the antique costume of his day, — cocked hats, long-tailed coats, swords at their sides; and courtly-looking little girls. My mother was quite particular about the books her children read; but I soon broke through all restraints, and read everything I could understand. A histrionic friend of my father, who had once been actually upon the stage, but was now an old man, used to come often to the house, and read Shakespeare to my parents, and I always listened to it entranced; for he read well, and very dramatically. I could read before I could speak plain. I know it by the fact that, once when trying to read over my father's shoulder, as I stood perched in a chair behind him, I repeated the words, "Bwow winds and cwack your cheeks," which made every one laugh, thus fixing it firmly in my memory. This early Shakespearian education was a great thing for myself and my sister Elizabeth, and I always had access to the books which lay on the table.

The time came, the date I cannot fix, when it was my great ambition to study Latin, as my sister did. I had once heard her say, "She can never study Latin," — by which she says she simply meant that I must not do it, on account of my health. But from that time I used to run off with the Latin grammar, and study it in the garret when no one knew it. It was no way to study it to much purpose, and I never became a good Latin scholar, as she did; but I learned enough of it to help my comprehension of English grammar in later years, — a study much valued, and well taught by my mother in connection with the writing of composition, — and to help the acquisition of other languages derived from it. What was still better, it enabled me to tide unhappy little boys over their early senseless lessons, when they were sent to begin their preparation for future college studies. My mother did not give up school-keeping till I was ten years old; and I ran in and out of the school-room at my own sweet will, and I was always attracted by the lessons in astronomy, chemistry, and natural philosophy, which my mother took great pleasure in teaching, and for which, for want of text-books, she wrote voluminous works in the form of dialogues, which her pupils read aloud, and which she illustrated to the best of her ability with very scanty materials. But she had two very large globes, one terrestrial and the other celestial, and, with Keith, and her own explanations, I became quite familiar with them, and had clear ideas of latitude, longitude, &c., and learned to find the stars in the sky by placing a pencil on the constellations on the globe, which pointed to their place in the sky. But it was a playful familiarity, for no lessons were ever required of me. Dr. Bowditch lived near us, and, hearing that my sister was a very studious child, often invited her to look through his telescope, and took great pleasure in talking to her of astronomy and geography. I was her satellite, and always joined her in these visits. Kind friends always took me into the country in summer for my health; and when in the city of Salem I lived chiefly in the spacious and beautiful garden of a neighbor, — a lovely old gentleman, who took a fancy to me when I was four years old, and in whose arms and by whose side I spent almost every day for many years, accompanying him to his farm in the vicinity, and on his visits to his daughter in Andover. Through these circumstances, my acquaintance with animal life and plant life and plant planting was most delightful, but not scientific; for there was no one to give me instruction, as the kindergarten children have it now. When I went to the farm with my dear old friend, the farm-yard and its denizens, the barn with its forty cows and consequent calves, the model piggery where those animals were actually kept clean, and where little pink pigs showed to advantage, the goose and duck pond, the poultry-yard, the turkeys and guinea-pigs, peacocks and parrots, were my beloved companions. At his daughter's home, a flock of sheep came nibbling up to the very windows; and as I grew older the hills took possession of me, and I scoured the country in the vicinity with a troop of children behind me, who had never before

had courage to "take walks," but who under my leadership climbed hills, waded through brooks, hunted wild flowers, and went to the tops of trees and barns, risking necks in pursuit of swallows' nests.

A friend of my father, who learned my love of flowers, proposed to teach me botany; and my sister Sophia and I — for she was also an invalid, and kept so for years by the terrible custom then prevalent of drugging with calomel, by which they kept us in a state of salivation a great deal of the time — used to walk to the next town two or three times a week, and generally made a day of it, for the sake of a ramble in the intervening woods and a paddle down the bed of a brook. Our kind friend gave us Bernardin St. Pierre's exquisite little book, "The Harmony of Plants," it being one volume of his edition of sixty volumes upon nature in its various aspects; and this fixed me for life in the supreme love of plant study and plant planting. And I will say here, in passing, that I have never found any aspect of nature so educating to the baby soul as this; for it brings God nearer than any other, and enables one to give a child the idea of the immanence of God, and of working in harmony with him, better than any other mode. I had always my little garden in the great Pickman garden; but this gave new life and interest to it; and, happily, my mother had the same passion, and never tired of taking us to the environs of Salem, so rich in wild-flowers, which we brought home and planted. And the treeless hills and hollows where Hawthorne's fancy revelled, and which he peopled with shapes, were imprinted on my childish memory by walks, which all my companions would not join in, because they were supposed still to be haunted by the witches hung on "Gallows Hill." Our mother had forestalled the influence of such superstitions by telling us the old servant, who filled our heads with them, was so ignorant that she knew no better, and we must only listen to her for amusement. My sister E., with a troop of children behind her, explored haunted houses, one of which we at one time inhabited, and it was such a sunshiny, cheerful house that we had no fearful associations with it, or with the subject.

Later in life I attended my sister's school in the beautiful valley of Lancaster, where my out-of-door life was enchanting, and where I pursued my studies in the tops of the trees, or hanging in the willows over the rushing waters of the arrowy Nashua, that courses and winds through that valley with bewildering beauty. I hardly remember the inside of the farm-house we inhabited, except the school-room we built for my sister in addition to it, just the other side of the kitchen, through which we used to dance for recreation, calling in the pleasant boys who were fitting for college in the place, and among whom we number to this day some of our dearest friends. Noble specimens of humanity came into our path in that lovely spot, where natural scenery is perhaps not surpassed in its kind anywhere on this fair earth. Such is the testimony of those who have travelled far and wide. It is said to resemble the "Vale of Avoca" in the meeting of its waters; and its rich meadow-

lands, laid under water every spring by the overflowing river, and its noble elms and oaks can hardly be rivalled. I remember only the study of Rollin's history in this place.

On our return to Salem I took French lessons of a very superior and classical scholar, native to that much-abused language. This was the first thorough drill I ever had, and gave me a method for studying everything. I read a world of French literature in that year and a half, when I ate, drank, dreamed, and wrote French, scarcely looking at an English book all that time; and soon after, I went to my sister in Maine. She went from Hallowell to Gardiner to be governess in a delightful family, but came up to Hallowell once a week to wind me up for the next week's teaching, in which I probably learnt a good deal more than my pupils did, except in French, which I really think I taught well. I was so terrified by the array of pupils, some of whom were older than myself, that whenever I entered the school-room my heart fell to my feet; and after a few days, a young woman of twenty-five, who was the greatest bugbear, gathered up her books, and concluded, as I afterwards heard, "not to go to school to that little girl!" I had never been to any school but my sister's, whose reign was a reign of love. I had no school ways whatever, but soon became friends with my pupils, so that we had a pleasant time together; and there was no need of discipline. A little firmness was all that was necessary to enforce my plans; and I do not now remember a single instance of contumacious behavior. I realized my own deficiencies very soon, and no one ever had a higher opinion of normal school training than I conceived at that time. But my sister's natural genius for the art and science stood me in stead; and the delightful social life I led in the family of charming friends, where my love of out-of-door life was ministered to by habits of horseback riding, picnicking, rambles in the glorious scenery, drives to beautiful places, made the year pass rapidly away, and educated me as only good society and the intercourse with cultivated minds can do. A large family circle of English people, friends of Priestley and Mrs. Barbauld, and the best of Boston society, in the midst of which they had formerly lived, and whose houses were open with hospitality all the time, gave me a new experience in life. With the imperfect training I had had, I served many years, by the aid of my knowledge of French and the taste for science that I had acquired in childhood, as assistant to my sister. I had the care of the younger children, in teaching the rudiments of reading and writing, geography, &c. I soon proved by experiment how stupidly they were taught; and when in after years I gave up all pupils but children under twelve, I made plans of my own.

A year or two in Brookline, that paradise of suburban towns, was fruitful of much enjoyment to us. The little school-house we occupied stood at the end of a pretty lane in which was a wild brook, overhung with beautiful vines and flowers, from which our little school-room was ornamented every summer day by the loving hands of the children.

“Miss Elizabeth’s” enjoyment of a head-dress of wild columbines, or of clematis in the day of its bloom and feathers, was reward enough for the time spent in gathering them and garlanding the premises; and often the school was transferred to the grassy plot around the building, where, among the dandelions and buttercups, the young idea was taught to shoot.

Here a friend offered to teach me German, which very few people in Boston then read. He lived in the next house, and, as he was a business man, his only time for teaching his beloved German, which he had acquired by several years’ residence in Germany, was before breakfast. At six o’clock that summer I was regularly on the piazza. There was no grammar here then, except an “accidence” containing the paradigms of nouns, adjectives, and verbs; but he gave me Gessner’s Idylls and a dictionary, and proposed that I should turn some English into German. Nearly every word of this was wrong, of course; but he patiently corrected, and I copied; and at last he procured me Adelung’s Grammar, — a huge, philosophical work, — and I wrote oceans of exercises, and dug out the idiom of that hard language so effectually that when Dr. Follen wrote his German grammar it seemed like play work.

I had studied French with M. Louvrier so classically that language study was a pastime to me. M. Louvrier, the most conscientious of teachers, knew that I wished to prepare myself for a teacher of French, and set himself to the task of preparing me well. His ostensible lesson was of an hour’s continuance; but he usually stayed four, leaving us like two exhausted receivers (for my sister Sophia joined me), and generally leaving me in a flood of tears; for he was merciless in his exactions, and my nerves broke completely down under it. If we read a hundred pages in the interval of the lessons, he was not satisfied without taking us up on each page; and every corrected sentence in our exercises had to be committed to memory, and repeated to him the next time he came. He also drilled us every time he came in the repetition of verbs, with the English of every person, and pronouns added in the right order. We kept a manuscript book to note all exceptions in the language; and in such modes he succeeded in engraving the language upon my soul, so that I even dreamed in it. If I had not had the wilds of Maine to rove in after this ordeal, I think my health would have suffered seriously; but horseback riding, boat rowing, wood rambling, restored the equilibrium with me. It left my sister subject to long trances and unmentionable headaches. Studying German on the piazza of a pleasant garden was quite another thing. When M. Louvrier left us, we often drew the chairs around the dining table, and relieved ourselves by jumping over them. Sometimes he caught us at it when he returned to change or add to some task; but we never apologized, and he good-naturedly smiled at our folly. Some theorists think the harder study is the better discipline; but this was my only experience of cramming, which I have never inflicted upon a fellow mortal. The true way to educate

is to make children love the very act of study, and never to let words precede the knowledge of things. They will then never be tired of investigating creation, and will add to their stores by constant accretion. Several families of fine culture and character gave us those advantages and enjoyments which only such society can give; and, as usual, my sister's school was the seed-bed of invaluable and life-long friendships; for she knew how to educate the soul.

We next kept school in Boston; where my father's family moved that we might all be together; and there my sister Sophia also became a power. It was the greatest treat to be allowed to visit her in the sick room, which the sensitiveness of her nerves made it necessary for her to occupy for many years, and see her beautiful drawings and paintings, listen to her stories, and see the sweet patience with which she bore suffering. Thirty or forty children learned to enter and leave the house without noise or rudeness, because "Miss Sophia" was an invalid, and was much disturbed by noise. How many tender little hearts that came from ungenial homes she comforted; for her sympathy drew out their sorrows as by a magnet. Later than this I kept a small school in Salem, the greater number of whose pupils, belonging to one large family connection, were afflicted with weak eyes; so that my resources were resolved mainly into oral teaching, — a mode which always brings teacher and pupil more closely together than any other. I also, with the help of the blackboard, taught them much French and German; so that, before that effort ended, they could understand and translate simple stories in those languages when read. But the effort cost me my voice for a time, and it took a long vacation, spent in the woods and by the seaside, to restore me. There I read to them Spenser's "Legend of Holiness," which my mother had beautifully paraphrased from the old English of Spenser's time, and also a charming little history she wrote of the settlement of the Bay State from the days of the Pilgrims; and my scholars — none of whom were over twelve — tried their composing hands at legends, some of which, though fragmentary, were strikingly good, and showed how children's minds can be kindled by good allegory. I never cared for fairy stories that did not exemplify anything; but the awakening of the pure imagination, or even graceful fancy, is always improving, because living and creative.

After several interesting years in Boston, I accompanied my sister to the tropics, where she went in pursuit of health; and there three of as lovely children as I ever knew were given into my keeping. They were left to us a great part of the day, and we had an opportunity there of looking into souls that few circumstances give. They have all passed on to other spheres, and therefore I can speak freely of them. They were rare specimens of noble character, developed in the midst of difficulties. Their mother — a woman of fine intellect and intense feeling, but of neglected early religious training (Catholic) — had come out into the light of liberal Christianity, under the influence of the venerable

Abiel Abbot, who resided with them one season when visiting that climate for rest and health, and who introduced her to the works of Channing, whom she afterwards sought eagerly and knew personally. She was glad to give her children into the hands of one who had drunk, however imperfectly, from that fountain of spirituality; for it was a subject in which a much bruised heart could not trust itself in their presence. The children poured out all the lore they had learned from slave nurses, bewitched, but not improved, by Catholic teaching, — for they were all native Africans, and only exchanged one fetich for another. They bathed their little souls in the heavenly dews of my sister's natural piety; and I (who read them Homer) was Pallas Minerva, who knew everything (alas!); but it was a delightful task to guide them through this labyrinth of errors, and help them to a tender pity for such benighted and degraded souls. One day when the little boy of six years old gave way to his anger with one of the gente, or *the people*, as the slaves were called, my sister said, "That is not the way to treat people." He looked at her amazed, and exclaimed, "Is Tecla a people?" Upon which she laid open the principle that all souls are white, whatever may be the color of the skin. The child understood her perfectly, and from that time comported himself accordingly. "Do not be like el gente!" was the common exclamation when the children did anything wrong, — meaning in plain phrase, "Do not be like the pigs!" It was not long before these children resolved never to own any human beings. Their mother was full of feeling for the unfortunate gente, and protected her children somewhat from them by the interposition of an American nurse of good character; but still the degradation of their condition and their various superstitions would filter through every guard. These children and their parents have all ended their earthly career; so I can speak freely of them. They could not talk to their mother of these things, but they poured it all out into my waiting ear; and such a tissue of false impressions of God and his creatures it would be difficult to describe. They left Cuba early, and were educated here; and they were noble examples of the recuperative power of the children of God to emerge from all difficulties unstained. The parents left their estate, and went to France, leaving the youngest son, who had the most practical ability, in charge of three or four hundred slaves for ten years. He could not dispose of the estate because he held it at first for his father, and after his death, in conjunction with others, and under peculiar circumstances of difficulty. But he became the most fatherly of slaveholders. His father had changed his coffee plantation for a sugar estate, which is more advantageous because it cannot be taken for debt; but the young man pursued a very different course with it from the ordinary one. It is the most terrible labor; because the usual plan is to keep up the fires all winter, when once kindled; and the night work is at the expense of the lives of the slaves, who never have any real rest during the sugar-making season, and are left to subsist chiefly on the sugar-cane. The

young master always had the works closed at nightfall in spite of the customs of the country, and was truly a father in his treatment of his colored people. When he gave them their liberty in the day of trouble, they would not accept it. They knew such slavery as theirs was better than any other condition they could be in there. After this dreary apprenticeship, he was so fortunate as to find a sympathizing wife, who was willing to share his cares and lived eight more years of plantation life with him, — as long as it was safe for her to do so; but his cares were too much for him, and he died comparatively young, leaving a large family. It was cheering to see how the early piety and nobility of his nature withstood all temptations. His sister-in-law said of him, "I lived with them those eight years, and I never saw a fault in Carl." The tender, conscientious boy became the man who took the burden of other men's woes upon himself. His creed was of the simplest, which the child could understand as well as the man, — that God had endowed his children with every faculty that would enable them to be happy and good in their earthly abode, if they did but obey the voice of the inward teacher, which is the voice of God; and that this is but one stage of the existence of the immortal soul, and that life is a discipline and an education. I returned from that sad residence a wiser, and I hope a better, woman; and no normal school could have given me such a moral training for my future work. Those children studied not only nature, but man; and I learned at least as much from them as I taught them.

After my return from Cuba, I continued to assist my sister for a while, and when she gave up school-keeping, and only held classes in history and literature, I dismissed all older children, and took only those under twelve. Here I found my greatest happiness. The children were as near to me as any children could be who were not my own. I taught children to read when I was ready, and by words, not letters. I often waited a year or two for this period; for I had little darlings out of nurseries, who would scramble into my chair and my lap when I told stories, and amuse themselves at other times by watching the horses and the pigeons from the window, or playing with blocks in a corner. I had never heard of Fröebel; but I talked with the children about every thing that interested them, and was the repository of all their joys and sorrows, even their home trials, which were various, — some had careless or exacting fathers; some had pleasure-hunting and selfish mothers, who turned their children over to undeveloped hirelings; others had ideal homes, — and to the nurseries of many of these I had free access, where I learned much from good and wise mothers. I taught them every thing I knew about nature; for that seemed to me the child's field. Twice a day usually — for I had a long session, divided by a lunching recess — I dressed them up, and took them out upon the common, where, in summer, we watched flowers and butterflies, and I tried to teach them obedience to law, as exemplified by the regulations of the city government for the preservation of that invaluable park. In winter

we coasted down Fox Hill, on the side where there were then few houses. I let them read story-books instead of readers, that they might learn to listen as well as to read. Spenser's "Faerie Queen," which my mother had paraphrased from the old English, was a favorite book. Mrs. Trimmer's "Robins" was a treatise upon the conduct of life under the form of the life and adventures of Robin, Dicksy, Pecksy, and Flapsy; but this I was obliged to read myself, as its stilted style was quite unfit for modern children; and indeed there were many good stories that I had to paraphrase to make them intelligible. Berquin's exquisite stories were almost the only exception. Child botany and conchology were favorite pursuits. I taught them geography by pictures, as well as maps, that they might not take lines and dots for scenery, and confined myself a good deal to the natural features of mountains, vallèys, and river-beds, peopling them with appropriate fauna and flora. I took them often to the Natural History Society, then kept in a lawyer's office, but already representing all the kingdoms of nature in choice specimens. I often sent for Mr. Chamberlain, the instrument-maker, to come and show experiments to illustrate my teaching of natural philosophy, chemistry, &c.; and at one time resolved my little pupils into a corps of lecturers, who would stand behind a small work-table, and lecture to one another upon any of these topics of natural science which I adapted to their age. The preparation for these lectures was very amusing in the children's homes; and their parents used to tell me that they were often driven to the encyclopædias to answer baby questions. One of the exercises was to choose some object in the room to be investigated, — a box, for instance, where wood, lock, feet, handle, paint or varnish, lining, &c., were minutely described. Another exercise was "a wonderful thing" with which I proposed to open school; and this cultivated indirectly the virtue of punctuality. Did it not drive *me* to encyclopædias? But the commonest things are wonderful to children, if only looked at aright. Nothing could be more wonderful to children than the pressure of the atmosphere upon every square inch of their bodies, or the condensation of the moisture of the air in form of dew (sometimes exemplified by a bottle of water), or the bursting of the embryo from the seed, or the evolution of the butterfly from the caterpillar's cocoon. My box of cocoons, covered with a bit of lace, was watched with never-ending curiosity and hope, and never disappointed expectation.

No picture or cast in my rooms was ever injured by the children. They drew upon the blackboard, from beautiful forms, and in one of my schools modelled with clay. One little sculptor would have made herself a name in after life if health and strength had not failed her.

Mr. Mann was much interested in my last school, and gave me much aid in determining what faculties should first be developed. The kindergarten method is the method of nature, for which I ever strove. We skirted the borders of it; but it remained for Froebel's genius to work out the practical appliances that put children in possession of their faculties before they are contaminated by the world. It has been

satisfactorily proved to those who have studied the subject, not only that the perversion of the faculties may be avoided, but that the child nature chooses the right and the good when it is placed within its reach, even if it has been already sullied. Who can ever doubt after seeing its workings that the good predominates over the evil in man, — or rather that the good is the positive pole, the evil simply the negative? that the good is an entity, evil *not* an entity? that the power of the good over the evil is absolute, annihilating it? This is not talk, but reality. Go into a kindergarten composed of children of the most degraded, vicious class of society, in which, when first collected, it seemed as if there was a specimen of every kind of villany, and note the change that love has made.

To see what children can do of an evil nature forms the only excuse for the belief of mankind in original sin. Untutored children are nothing but the forces of nature let loose without any cognizance of law, but still endowed with will-power. Every man, every child, is a cause, — a creative cause. Let the imagination have full swing upon what such causes can effect, — cruelty to animals, selfishness, consciousness of power without love, deceitfulness, cunning, thievery, obscenity, — all these one can see in a group of children who have been left with the conscience untouched, generosity unroused, disobedience rampant. Looking upon such a crowd none other than a trained mind can see any light emerging from the darkness; but put it into agreeable circumstances, evoke the love of the beautiful by a flower, a beautiful picture, the sight of a lovely baby, the kind word and gentle touch of an inspired lover of childhood, and the turbid waters grow calm. Give them something charming to do, and tell them what they have produced is their own to carry to their mother, or to hang up at home, the most savage little bruiser or kicker will become quiet. He has created something. Wings play at his shoulders. He wishes to keep what he has made: no one must take it from him. The idea of *meum* suggests that of *tuum*. “Do just as you wish others to do to you, and then you will always be kind, — that is called the golden rule.” How many a child has reflected for the first time on hearing these words. He understands it at once; he will backslide from it, but a frequent repetition of it exemplified practically will recall and soon fix it in his mind. It has a selfish side to it, but it is convincing and unanswerable. “Who first said it was wrong to steal?” an intelligent child asked. “I suppose it was the first person who had anything stolen from him,” was the answer. It was a sufficient answer. It was a good child that asked the question, and he smiled at the answer. A genuine kindergarten composed of well-behaved children develops the good, and kills out what evil germs may lie in them very soon. It is the kindergartens composed of the utterly neglected, the children of the gutter, who have no homes, or worse than none, who show what that divine system is worth to humanity, and why it is the entering wedge of what we fondly call the Millennium, which is not an impossibility, but is not to be attained slumbering.

MARY PEABODY MANN.

HISTORICAL DEVELOPMENT OF EDUCATION.

MISSIONS AND SCHOOLS FOR THE INDIANS.

EFFORTS TO CIVILIZE AND CHRISTIANIZE THE INDIAN TRIBES.

Before submitting some considerations on the purely instructional work which has been attempted with the children and youth of the Indian tribes now within the limits of the United States, we will note in the briefest possible manner the efforts put forth by societies and individuals under the auspices, more or less direct, of the governments, either of the mother country or of the colonies that exercised sovereign authority over the territory, to change the social condition and religious opinions and practices of these tribes. Any notice, however brief, would be grossly imperfect which did not mention the earliest missions of the Catholic church under the encouragement or express directions of the Spanish and French governments, although these missions were commenced and their directing authorities resided beyond our territorial limits and jurisdiction. The annals of Christianity will be searched in vain for more touching instances of religious obedience, of utter self-negation, of heroic endurance of pain and privation, and sublime devotion to duty, than the history of these missions presents.

SPANISH MISSIONS.

All the expeditions of discovery and settlement which left Spain after the genius of Columbus had given a new world to Ferdinand and Isabella, were accompanied by clergymen of the Catholic church, usually acting with the strength of some religious association. One of the first, if not the first body of missionaries, consisted of three Dominican friars who landed on the island of Hispaniola in 1510; they were followed in 1516 by a delegation of Jeronimites, who proceeded to Mexico, and, under instructions from Ximenes, organized their mission house, so as to employ an Indian, trained for this purpose, as sacristan, "who was to teach the children of the Caciques and principal men, and also to endeavor to make the adults speak Spanish." They were soon succeeded by twelve Franciscans, who had a convent at Huexot-

zinco in 1524. We will not follow the history of these Mexican missions, of which interesting details will be found in the original authorities given at the close of this chapter, and out of which the Spanish missions within the present limits of the United States sprang.*

The earliest Spanish mission, within the present limits of the United States, was attempted in Florida, in 1528, by a number of Franciscans, under the direction of Father John Juarez, who accompanied the expedition of Narvaez, projected in 1526 for the conquest of that peninsula. This attempt failed, and another scarcely more successful effort was made by Father Olmos, of the same order, in 1544, and by Father Louis-Cancer, a Dominican, in 1547, under the sanction of the sovereign, Philip II, who at the same time issued a royal decree restoring to freedom every native of Florida held in bondage. Both of these leaders were men of the highest culture, and indomitable zeal. The first, Father Olmos, came to Mexico in 1528, with Bishop Zumarraga, and soon mastered the language of the Mexican, Totonac, Tepeguan, and Guasteca Indians; in each of which languages he composed a grammar, vocabulary, catechism, and instructions on the sacraments. The latter, Father Cancer, lost his life seeking in an unarmed vessel, and with an unarmed company, to plant the standard of Christianity among the natives of Florida. Other attempts were made in 1553 and 1559, by members of the same order, one of whom, Father Peter Martinez de Feria, prior and procurator of the Mexican mission, composed a grammar in the Indian language, for the use of the converts and teachers. A more successful mission was projected in 1562, consisting of eleven Franciscans, one father of the order of mercy, a secular priest, and eight Jesuits; a portion of whom were engaged in their labors at St. Augustine, in 1566. Two of the Jesuit fathers mastered the language by the help of natives found in Havana, where they composed a vocabulary, and commenced a school for Florida children.

In this mission the Jesuits took the lead, Florida having been made a vice-province of the order, with Father John Baptist Segura as vice-provincial, and several fathers and brothers as colaborers; but at the close of 1568 they had met with so little success among the tribes of Florida and the regions north, which is now known as Georgia and Carolina, that they were about to report the mission a failure, when Pope Pius V, and the head of the order, Francis Borgia, came to their

* For the few facts presented in the following notices of the Spanish and French missions, the writer is indebted, mainly to Shea's "History of Catholic Missions Among the Indian Tribes of the United States," (New York, 1855,) and to the authorities cited therein, and to Parkman's "The Jesuits in North America," (Boston, 1867.)

rescue. In a brief addressed by the sovereign pontiff, August 18, 1569, to Melendez, "viceroy in the province of Florida on the part of India." Melendez was enjoined not only "to faithfully, diligently, and carefully perform the orders and instructions given you by so Catholic a King, but by your discretion and habit to do all to effect the increase of our holy Catholic faith, and gain more souls to God. I am well aware, as you know, that it is necessary to govern these Indians with good sense and discretion, that those who are weak in the faith from being newly converted be confirmed and strengthened, and idolaters be converted and receive the faith of Christ, that the former may praise God, knowing the benefits of His divine mercy, and the latter, still infidels, may, by the example and model of those now out of blindness, be brought to a knowledge of the truth ; but nothing is more important in the conversion of these Indians and idolaters than *to endeavor by all means to prevent scandal being given by the vices and immoralities of such as go to those western parts.* This is the key of this holy work, in which is included the whole essence of your charge."

In the words italicised of this early document from the highest authority of the largest portion of the Christian church we have the key not only to such success as has followed the efforts put forth to civilize and christianize the Indian at any time and in any quarter by any ecclesiastical or civil authority, but to the lamentable failures which have too generally characterized these efforts. Habit, the schoolmaster of the race, the lawgiver of nations, the main reliance of the school and the family, has not been enlisted for successive generations to create and transmit new individual, family, and tribal tendencies, and to throw around these children of the forest, in whom the lower animal propensities have been nurtured and strengthened from infancy, and the higher intellectual and moral faculties have been at best only partially developed, strong although scarcely conscious restraints from temptation and constantly impelling influences toward a higher life. On the contrary, their lower propensities have been constantly fed by the vices and immoralities of the white race, and the restraints and encouragements which the best of any race find in the good example of the family, society and government, have not been felt.

We will not attempt to give in detail the fortunes of this Florida mission. Following it, there was a succession of efforts by which Christianity was planted in New Mexico by Fathers of the Franciscan order in 1581, 1597 and 1601, which have continued to the present time; in Texas in 1633, and in lower California in 1601. In upper California the Jesuits inaugurated a mission which was continued

with remarkable success until 1768, when they were violently removed by order of the Spanish government and succeeded by missionaries of the Franciscan and Dominican orders. These missions in New Mexico and upper California were conducted on the plan of gathering about the station a colony of Indian converts, with herds of cattle and a plentiful supply of implements for prosecuting the agricultural and mechanical arts. These missions were all interrupted or totally destroyed by violence. Of one of them, St. Gabriel, Mr. Bartlett, the United States commissioner on the Mexican boundary, in his "*Personal Narrative*," thus writes:

"Five thousand Indians were at one time collected at the mission of St. Gabriel. They are represented to have been sober and industrious, well clothed and fed, and seem to have experienced as high a state of happiness as they are adapted by nature to receive. These five thousand Indians constituted a large family, of which the Padres were the social, religious, and, we might say, political heads.

"Living thus, this vile and degraded race began to learn some of the fundamental principles of civilized life. The institution of marriage began to be respected and blessed by the rites of religion; grew to be so much considered that deviations from its duties were somewhat unfrequent occurrences. The girls, on their arrival at the age of puberty, were separated from the rest of the population and taught the useful arts of sewing, weaving, cording, &c., and were only permitted to mingle with the population when they had assumed the character of wives.

"When, at present, we look around and behold the state of the Indians in this country; when we see their women degraded into a scale of life too menial to be even domestics; when we behold their men brutalized by drink, incapable of work, and following a system of petty thieving for a living, humanity cannot refrain from wishing that the dilapidated mission of San Gabriel should be renovated, its broken walls rebuilt, its roofless houses be covered, and its deserted halls be again filled with its ancient, industrious, happy and contented original population."

Whatever may be thought of the compulsory segregation of the Indian converts from fellowship with their own tribes, and from unregulated traffic and intercourse with European settlers, this treatment did not alienate the affections and respect of the Indians themselves, and at the same time it helped to train them to those habits of life—dress, occupation, manners, conversation, religious observances—which contribute powerfully to confirm the oral instructions of the school and the church. What would have been the ultimate results of this policy continued through generations, we can only conjecture. The missions were forcibly broken up, their teachers expelled, the settlements, with their herds, dispersed, and the Indians suffered to go back to their old associates and habits, and soon relapsed into a barbarism made worse by a deep infusion of the vices of civilized society.

FRENCH MISSIONS.

The conversion of the Indians to Christianity was one of the avowed motives of the French government in prosecuting the work of American discovery and settlement. Jacques Cartier's commission, issued by Francis I in 1534, authorized him to explore, "in order the better to do what was pleasing to God, our Creator and Redeemer, and that may be for the spread of his holy and adorable name." De Montes, the founder of Arcadia, was required by his commission, dated 1608, 'to have the Indians instructed, invited, impelled to a knowledge of God, the light of faith and Christianity.' Champlain, the founder of Quebec, opens the narrative of his first voyage with the declaration, "that the salvation of one soul was more to be coveted than the conquest of a kingdom." One or more ecclesiastics accompanied every exploring party, and whenever a settlement was made there the cross was erected and the sacrament of the mass performed.

The first mission was commenced at the mouth of the St. Croix, on Boon island, in 1608, where a settlement was begun by De Montes. His successor, Potrin-court, appealed to the Pope for his blessing, and two Jesuits, aided by Lady Guercheville, in 1611, commenced a mission among the Micmacs (now a portion of Nova Scotia) and the Abnakis, along the coast of Maine. In the annals of this latter mission we find the name of Father Gabriel Druillettes, who had great facility in acquiring the Indian dialects; of Father Rale, whose dictionary of the Abnaki tongue, begun in 1691, is one of the most valuable contributions to Indian philology; and of Rev. John Cheverus, who was missionary in 1794, and in 1808 bishop of Boston, and in 1828 bishop of Bordeaux, and in 1836 died, one of the college of cardinals.

In 1615 four friars of the Recollet order, (a branch of the order of St. Francis, which originated in Spain, was introduced into Italy in 1525, where they were known as *gli reformati*, and invited to France by the Duke de Nevers, who established them in the Convent des Recollet, whence they took their name,) and three years later two more, came to Canada, and commenced at once the acquisition of the language of the Hurons and the Montagnais. In the year last named (1618) Pope Paul IV gave to this order the charge of the missions in Canada. They soon after (1620) commenced a seminary on the banks of the river St. Charles for the instruction of the savages, and sent to France a lad of the Hurons to be instructed in Calleville college. Their seminary, to which they gave the name of Notre Dame des Anges, became a hospital in 1681.

In 1624, on the invitation of the chief of the Recollet order in France, the Jesuits embarked in the work of converting the Indians of Canada, and five members of the order, supported at the sole expense of the Duke of Ventadour, arrived at Quebec in 1625, and then and there commenced a series of missions, which in the course of sixty years were extended among the Indian tribes, on both sides of the St. Lawrence, the shores of Lakes Erie, Michigan, and Superior, the headwaters and tributaries of the Mississippi, and the gulf of Mexico.

By direction of Pope Urban VIII in 1633, the entire charge of Indian missions in Canada was committed to the Jesuits, and Quebec was made the head of the province by the superior of the society in Europe. In a plan of dealing with the Indians, the superintendent of the order in Canada designed from the start to gather Indian converts as early and as far as practicable into colonies, with due means of education, support and protection, and with an utter prohibition of all traffic in intoxicating liquors, which the missions found to be the great enemy of all permanent change in the habits of the Indians. But neither of these leading features could be enforced in the absence of proper co-operation from the civil and military authorities, and thus the usual course of oral instruction in the ceremonies and doctrines of the Catholic church, aided by symbolic representations of its grand historic facts, was pursued both with children and adults.

To the zeal, enterprise and far-reaching policy of these early missionaries is due the rapid extension of French jurisdiction into the wilderness of the west and southwest, by right of discovery and settlement, the permanent reduction of the Indian languages into written and printed symbols, and the establishment of those great educational and charitable foundations, which are to this day the boast of Canada. Among the earliest contributions to our knowledge of Indian dialects is a catechism in the language of the Huron tribe by Father John de Brebeuf, published in 1632, and a grammar of the same language by Father Chaumonot in 1645, which formed the base of all the grammars of the Indian tongues for half a century.

Aided by the liberal contributions of devout men and women in the highest social circles of France, the seminary of the Hurons was begun by the Recollet fathers in 1638, under the title of Notre Dame des Anges. In 1639 the Hotel Dieu was erected at Quebec, as a curative hospital, mainly at the expense of the Duchess d'Aiguillon, who paid the expenses of the religious women who left comfortable homes in France to minister to the sick in the deprivations of a new colony; and in the same year the foundation was laid by Madame La-

peltrie, of the Ursuline convent for educating young girls, both converts and of French families, the first female seminary in America. In 1645 the Seminary of St. Sulpitius of Montreal, a dependency of the famous college of the same name in Paris, was founded by M. de Queylus, the vicar-general of the Jesuit order, and in 1682 Bishop Laval, of the illustrious house of Montmorency, established the "Little Seminary" in Quebec which has rendered eminent service to the cause of classical learning in Canada for two centuries. And more interesting in its inception and unselfish prosecution, if possible, was the Congregation of Notre Dame, commenced in 1659 by Sister Bourgeois, a poor nun of Troyes, to teach girls of humble life to read, write, sew and knit, and the rudiments of Christian doctrine. When this pious work was begun, Margaret Bourgeois had but ten francs at her command, but she had the zeal of Christian earnestness, and faith in God's blessing on a holy purpose, and she crossed the ocean three times to enlist the aid of wealthy and influential families in her enterprise, which became eminently successful. Nor was the work of popular instruction overlooked. In 1728 the Jesuits founded a college in Montreal, and the Charon friars, in the same year, and the Brotherhood of the Christian Schools in 1737, formed themselves into an educational corps to establish schools in the rural districts. But their efforts were not seconded by the civil authorities, and failed there, as all lay, or ecclesiastical bodies have failed everywhere, to accomplish alone so great an object as the universal education of a people. It needs the organization, the pecuniary resources, and constant inspection which the supreme legislative authority of a State can provide, and, if necessary, enforce.

Mr. Shea, in his history of the Catholic missions, gives the names of twenty-two missionaries of the Abnaki mission, commencing with Father Peter Biard, in 1613, and closing with Father Romagné, in 1795; of the Huron mission, thirty members, beginning with Father La Caron, in 1615, and closing with Father Adrian Grelon, in 1650; of the Iroquois, from Father Isaac Jogues, in 1642, to Father Francis Marcox, in 1832; of the Ottawa mission, from Father Jogues, in 1642, to Father Potier, in 1781; of the Illinois mission, from Father Marquette, in 1666, to Father Julian Duvernay, in 1763, and of the Louisiana mission, from Father Anthony Davion, in 1699, to Father Baudouin, in 1780, making a total of one hundred and seventy missionaries, all of whom died in the service, and many of them martyrs in their devotion to the cause.

ELIOT'S LABORS FOR THE INDIANS.*

In the first place he set about learning the Indian language, under difficulties which only a pioneer can encounter or appreciate. Without book, or teacher, he had to grope his way from the unintelligible sounds of the barbarous natives, into the mysteries of a language that it would be no easy thing to master with all the helps of learning. He had first to learn to understand the common talk. Then he had to learn the fit analogies to express what he had to teach, for which they had no words, but which he must still teach in the language of the natives.—And he had also to study the Indian and reduce it to some system, to study its laws scientifically, as well as to learn the words, by memory, in order to reduce it to a written tongue. It is said he took Job Nesutan into his family to learn the language. It is much more probable that he had been studying the language for several years. Amongst the deaths recorded in the town is one, in 1646, of 'an Indian who had lived ten years with the whites, and could read.' From our knowledge of Eliot, we can not help believing that Eliot taught, and learned of this person.

There were many Indians in the vicinity of Roxbury, and very likely many within the town, though but rare traces are found of them. Eliot first went to preach to them at Nonantum, October 28th, 1646. He preached there again on the 11th, and again on the 26th of November, in the same year. The whole proceedings of the meetings are still preserved. After prayer and a discourse, the Indians put such questions as suggested themselves, such as these, *How he knew Jesus Christ? Whether the English were ever ignorant of Christ? Whether Christ could understand prayers in Indian? How the world came to be full of people, if all men were drowned in the flood? Why sea water was salt and river water fresh?* These and many more were put at the different meetings. They are curious and interesting, as they show the operation of men's minds and of the religious sentiment. But they are too voluminous for the limits of this sketch. The accounts of the meetings were sent to England and published and excited great interest.

It was a maxim with Eliot that the Indians must be civilized in order to their being christianized. Accordingly, he took the greatest pains not only to teach them the truths of Christianity, but to show to them the benefits of the various arts known to the English, and to urge them to industry, good order, and good government. He looked to their physical comfort. 'Cleanliness' he considered

* By Charles M. Ellis—in *History of Roxbury*, 1847.

‘next to Godliness.’ On the organization of a town at Natick, a simple code of laws was agreed upon, which indicate at once the habits of the natives, and the aim and obstacles of Eliot. They punished 1st, idleness; 2d, licentiousness; 3d, cruelty to women; 4th, vagrancy; 5th, looseness in dress; 6th, filthiness in person. These were, no doubt, made by Eliot.

Before, or about the time when Eliot commenced his labor at Nonantum, he had visited the Indians at Dorchester mill, but was not well received by them, though they afterward desired him to preach to them. He began with those in his immediate vicinity. The next year, he went to Concord to preach, when he converted the chief and gained converts in the tribe. In 1648, he went to a tribe on the Merrimac; in 1648, to Yarmouth, afterward to Lancaster and Brookfield. It was his custom for many years to preach to the Indians once a fortnight. In 1670, he made a journey to the Indians at Martha’s Vineyard. In 1673–4, he traveled through the country of the Nipmucks, who inhabited the southern parts of western Massachusetts and the north of Connecticut, preaching constantly, and teaching them in their wigwams.

The progress he made was not rapid. It may be judged of from the fact that, at the breaking out of Philip’s war the whole number of Christian Indians in the Massachusetts colony was about 1,150. The work was beset with difficulties. King Philip told the Apostle that he cared no more for his religion than for a button on his coat. Ninigret, the Narraganset sachem, when requested by Mayhew leave to preach to his tribe, told him to make the English good first. There was great personal danger and hardship. On one occasion, the life of Mr. Eliot was threatened if he dared to visit a certain tribe; but he did not hesitate, saying, ‘it is God’s work and I fear not,’ and he went, under the guard of his friends and some Christian Indians. In one of his letters he says, ‘I have not been dry night or day, from the third day of the week unto the sixth, but so traveled, and at night pull off my boots, wring my stockings, and on with them again, and so continue. But God steps in and helps.’ Gookin, a Judge of the Indian Court, said he was afraid to go through the streets alone. Eliot was not proof against all hardship. In 1657, he was ‘*exercised by the sciatica*, enduring much anguish and dolor,’ so that he could not preach for twenty weeks.

Yet he accomplished much. Under him the Indians became neat and industrious. They began to leave their old habits and organize into civilized society. Several of their towns became quite thriving and respectable. In 1647, on Eliot’s petition, a court was estab-

lished for the Indian tribe of Nonantum. The warrant of Mr. Justice Waban, 'You, you big constable, quick you catch um Jeremiah Offscow, strong you hold um, safe you bring um, afore me Waban, justice peace,' and his righteous judgment in the case, between the drunken Indians, 'tie um all up, and whip um plaintiff, and whip um fendant, and whip um witness,' have become equally well known, but the general good order and thrifty condition of the Natick Indians is proof enough of a wise administration of affairs. Even the ridiculous warrant is equaled in brevity by one from the English court. 'To the Marshal, or his deputy. By virtue hereof you are required to levy of the land of John Lamb to the value of £50: 18, (and 2sh. for this ex'on,) to satisfy the worshipfull Thomas Dudley for a judgment granted at the Court held at Boston the 6th month.'

In 1647, there was a synod which the Indians attended. A sermon was preached in the Indian language, and after it they had an opportunity to put any questions that suggested themselves.

In 1650, the Natick Indians urged Eliot to allow them to form a town. The Indian town was organized the 6th of August, 1651. The regular formation of a church was conducted with great caution, from conscientious fears lest the natives should be admitted to communion unprepared. Repeated examinations were had, some of them public. In 1660, an Indian church was formed.

In connection with these labors, Eliot undertook and accomplished others, designed to establish his work on a lasting basis. He thought of making a translation of the Bible, at least as early as 1649. In 1651, he had begun it. In 1661, the New Testament was published in Indian, and the Old Testament in 1663. His labors for the Indians were the dearest objects of his heart. The result he hoped for was one that cheered his manly and benevolent soul to think upon. He looked to the direct effect of his own labors with the greatest solicitude, because, having few to aid him, he could not but feel how much the success of his objects depended on his own single arm alone. He had not merely to write, but to do much of the labor of printing also. In a letter written concerning a second edition of the Bible, which was published in 1685, he speaks of having only one person besides himself able to conduct the work. This was the Indian James, known as the Printer.

In speaking of this work, Edward Everett has said, 'Since the days of the Apostle Paul, a nobler, truer, and warmer spirit than John Eliot never lived; and taking the state of the country, the narrowness of the means, the rudeness of the age, into consideration, the History of the Christian Church does not contain an

example of resolute, untiring, successful labor, superior to that of translating the entire Scriptures into the language of the native tribes of Massachusetts, a labor performed under the constant burden of his duties as a minister and a preacher, and at a time when his spirits began to flag.'

But it seems to me that, vast as was the undertaking, and however common patience might have broken under so long and wearisome a labor, the literary toil of Eliot was not so great as his missionary labors. In these, while he had few of the pleasures of study or learning, he had quite as much tedious drudgery, and he had also to encounter danger, to endure excessive hardships, and what perhaps would be most trying of all, to withstand the attacks and calumnies of the English themselves. The feelings of many of the English were hostile to his efforts. When the natives were committing depredations on their property, burning their villages, and murdering families all about, the English could not enter with great sympathy into the feelings of Eliot. Besides this, Eliot had the pain of seeing his best efforts thwarted, in a hundred ways, and the labors of twice as many years as it took him to translate the Bible, undone in a moment, by some cruel or imprudent act on the part of his own countrymen. Such things will damp and dishearten one who fears no danger and never is tired with the severest labor.

For forty years, day after day, week after week, he continued his visits to the Indians, not merely preaching and holding 'talks' with them, but going about amongst them every where, as the earliest code of laws proves, in the midst of every thing loathsome and revolting. His feelings must have been bitter when at the end of the war he found that more than half those who had been numbered amongst the little body of his converts, had renounced the faith, and taken up arms against the English.

In 1675, several captive Indians were brought to Boston.—Eliot interested himself deeply in their behalf. His diary shows how warm was his sympathy. But the people looked at it with jealousy, and nothing but respect for Eliot could have prevented forcible interference. It was a sore trial for him to see men ruthlessly rooting out the truths he had planted, and to feel that, no one would again attempt to do what he had effected.

In 1675, is a note in his diary, 'soone after the warre wh. ye Indians brake forth, the history wr. off I cannot, I may not relate, the prophane Indians proved a sharpe rod to the English, and the English proved a very sharpe rod to the praying Indians.'

After the war was over, he records how the soldiers welcomed

our Indians (the praying Indians) wherever they met them, and 'led them to the ordinarys and made them drink, and bred them by such a habit to love strong drink, so that it was a terrible snare to us. They learned so to love strong drink that they spent all their wages and pawned all they had for strong drink,' 'so that drunkenness increased, quarrelling and fiting,' &c. He then laments over the loss of their Bibles.

The translation of the Bible could not so severely tax all his energies, as these labors. It certainly was attended with none of the bitter discouragements he found in them.

Besides the Bible, Eliot translated many other books into the Indian language. Baxter's Call, and the Psalter, were published in 1664; the Indian Grammar, in 1666; several editions of Catechisms and Primers; the 'Sound Believer,' and some tracts, about the same time.

Besides his Indian books, Eliot wrote and published several English ones; in 1665, the 'Communion of the Churches;' in 1672, the 'Logical Primer;' in 1678, the 'Harmony of the Gospels.' 'The Christian Commonwealth' was also written by Eliot—a work in some respects very remarkable, as it was above the mere imitation of Old Testament enactments, to which nearly all the Puritan lawgivers of that period were addicted, and provided in the matter of penalties for a system of precedents, founded on the harmony of any decision by the Supreme Council between the Divine and the Human—the spirit of the Gospel being the guide of all moral actions of man either toward God or man. It asserts the doctrine of a Higher Law—that no human enactment which conflicts with the laws of God in the conscience can bind men in their civil conduct.

For near eighty years Mr. Eliot labored for the Indians, and for his native people—always beloved by all. His charity was so great that his salary was often distributed for the relief of his needy neighbors, so soon after the period at which he received it, that before another period arrived his own family were straightened for the comforts of life. One day the parish treasurer, on paying the money due, which he put into a handkerchief, in order to prevent Mr. Eliot from giving away his money before he got home, tied the ends of the handkerchief in as many hard knots as he could. The good man received the handkerchief and took leave of the treasurer. He immediately went to the house of a sick and necessitous family. On entering he gave them his blessing, and told them God had sent them some relief. The sufferers, with tears of gratitude, welcomed

their pious benefactor, who, with moistened eyes, began to untie the knots in his handkerchief. After many efforts to get at his money, and impatient at the perplexity and delay, he gave the handkerchief and all the money to the mother of the family, saying, with trembling accents, 'Here, my dear, take it; I believe the Lord designed all for you.' Whenever he is spoken of by any of them, he is named in terms of more than common endearment.

His private journal is full of entries which indicate the character of the man—instead of recording outward events, such as earthquakes, shipwrecks, the weather, gossip, he 'thanks God that the £12 18s. 9d., which they raised to buy Edward Stowell out of Turkish captivity, made up just the sum needed.' He speaks of the attempts made to reduce Southold and Southampton, 'because they stand for their liberty;' of the Sabbath-school; of 'the gracious gift of charity from the friends in Dublin for such as died in the warr;' of his visits to men, Indians and whites, in prison, and on the scaffold.

In his parish he always declined taking wine, quietly remarking that it was an ancient beverage undoubtedly, but he believed water was an older one. He utterly condemned the filthy use of tobacco. He preached and prayed against wigs and long hair, and censured many fashions of the day as ridiculous. Some of his biographers have set down his sentiments on these matters as well as on war, temperance, and the treatment of the natives, to his 'prejudices.' But they condemn themselves more than they censure him. He considered what was just, and thought of the follies of fashion as they indicated and affected character. For himself, he saved that he might be liberal. He never had but one dish at meal. He wore a leathern girdle. Notwithstanding his great private benevolence, with his small salary, he accomplished costly undertakings.

When he could not preach, at the close of his life, he said to the parish, 'I do here give up my salary to the Lord Jesus Christ, and now, brethren, you may fix that upon any man that God shall make a pastor.' But the society declined to receive it, saying they deemed his presence necessary, whatever sum was granted for his support.

'Mr. Eliot was peculiarly happy in domestic life. His wife was an excellent economist, and by her prudent management enabled him to be generous to his friends and hospitable to strangers. With a moderate stipend, he educated four sons at college.'

As a preacher, Eliot was very effective and popular. His manner was easy and pleasing, his voice sweet and clear, his style plain, and free from the conceit of the day. He always was earnest and spoke from the fullness of his own feelings.

THE UNIVERSITY OF CHICAGO

LIBRARY

1000 North Dearborn Avenue, Chicago, Ill. 60610

Acquired from the University of Chicago Press

1965

100

100

THE UNIVERSITY OF CHICAGO

EDUCATIONAL DEVELOPMENT: Contributions to the History of the Original Free Schools, Incorporated Academies, and Common Schools of different grades, in New England. By Henry Barnard, LL.D. In four Parts, average 200 pages each. Price \$1.00 per Part. 1878.

CONTENTS.

PART I. THE ORIGINAL FREE SCHOOL OF NEW ENGLAND.

INTRODUCTION.....	1-58
HISTORICAL DEVELOPMENT OF SCHOOLS AND EDUCATION	1
An address at Hartford, July 4, 1876.....	3
I. MASSACHUSETTS.....	59-160
I. ORIGINAL SCHOOL POLICY—ORDINANCES OF 1642, 1647, 1654.....	59
Act for settlement and support of Ministers and Schoolmasters.....	62
POLICY OF ENDOWMENT—INDIVIDUAL—TOWN—COLONIAL.....	65
II. BOSTON LATIN GRAMMAR SCHOOL.....	65
Subscription of the Richer Inhabitants, 1636—Bequests—Town Grants.....	65
Mastership of Ezekiel Cheever—Nathaniel Williams—John Lovel.....	67
III. SALEM—FREE SCHOOL IN 1637—TOWN ACTION RESPECTING SCHOOLS.....	97
IV. DORCHESTER—TOWN GRAMMAR SCHOOL IN 1639.....	105
Rules for Ordering the Town School in 1645.....	106
V. ROXBURY—FREE SCHOOL OF 1645.....	120
VI. CHARLESTOWN—TOWN GRAMMAR SCHOOL, 1636.....	134
VII. IPSWICH—TOWN GRAMMAR SCHOOL	135
VIII. HADLEY—HOPKINS FOUNDATION—TOWN GRAMMAR SCHOOL.....	145
IX. CAMBRIDGE—GRAMMAR SCHOOL—HOPKINS CLASSICAL SCHOOL.....	157
II. CONNECTICUT.....	161-304
I. INTRODUCTION.....	163
Settlement and Civil Policy—Constitution of 1638.....	163
Original School Policy—Individual, Family, and Town action.....	167
Code of 1650—Town Grammar Schools—County Free Schools.....	169
II. EDWARD HOPKINS AND THE HOPKINS FOUNDATIONS.....	177
Memoir—Will—Distribution to Hartford—New Haven—Hadley—Cambridge.....	177
III. THE GRAMMAR SCHOOL AT HARTFORD.....	185
I. MANAGEMENT OF ESTATE AND SCHOOL.....	185
1. PRE-HOPKINS PERIOD—FROM 1638 TO 1664.....	185
2. MANAGEMENT FROM 1664-1798.....	187
3. TRUSTEES INCORPORATED ON PETITION OF TOWN.....	195
II. TEACHERS OF THE GRAMMAR SCHOOL.....	197
1. Higginson—Collins—Andrews—Russell—Fytch—Pitkin.....	197
2. Watson—Hamlin—Adams—Strong—Candee—Loomis.....	199
Parsons—Witter—Hooker—Coleman—Stoddard—Beecher—Holland	200
3. Barrows—Carter—Barnard—Smith—Stuart—Stanley—Fellows.....	202
Sophocles—Thayer—Matson—Seymour—Wright—Post—Tracy.....	202
III. REMINISCENCES OF TEACHERS AND PUPILS.....	205
Leonard Bacon—John Boyd—Jonathan Brace—Henry Barnard.....	205
F. A. P. Barnard—A. L. Chapin—Thomas Thacher.....	210
IV. SCHOOLHOUSES AND GROUNDS.....	223
Ground Plans and Yard in 1753.....	224
V. EFFORTS TO ESTABLISH A PUBLIC HIGH SCHOOL, IN 1838-1847.....	225
IV. THE HOPKINS GRAMMAR SCHOOL AT NEW HAVEN.....	273
I. SETTLEMENT OF QUINNIPIAC—TOWN AND COLONY OF NEW HAVEN.....	273
THEOPHILUS EATON—FUNDAMENTAL AGREEMENT.....	274
JOHN DAVENPORT—PLANTATION COVENANT.....	277
II. SCHOOL POLICY—SCHOOL FROM 1639 TO 1664.....	282
EZEKIEL CHEEVER—GRAMMAR SCHOOL—COUNTY SCHOOL.....	283
III. THE HOPKINS BEQUEST.....	290
Paper read by Mr. Davenport, May 4, 1660.....	290

EDUCATION AND EDUCATIONAL INSTITUTIONS.

CHAPTER I.

EDUCATIONAL DEVELOPMENT IN THE COLONIAL PERIOD.

INTRODUCTION.

THE origin, nomenclature, and early peculiarities of the systems, institutions, and methods of instruction adopted in the original colonies, which now constitute a portion of the United States of America, will be found in the educational institutions and practices of the countries from which these colonies were settled—modified by the education, character, motives of emigration, and necessities of the settlers themselves.

The earliest effort to establish an educational institution in the English dominions in America, was made under the auspices of King James I, and by contributions of members of the Church of England from 1618 to 1623. In a letter addressed to the Archbishops, he authorizes them to invite the members of the Church throughout the kingdom to assist "those undertakers of that Plantation [Virginia], with the erecting of some churches and schools for the education of the children of those barbarians" [the Aborigines] and of the colonists. Under these instructions, a sum of £1500 was collected for the erection of a building for a college at Henrico—a town whose foundations, or site even, cannot now be certainly determined, but which according to the best authorities was situated near Varina on Cox's Island, about fifty miles above Jamestown. Authority was given by the Company to the Governor to set apart 10,000 acres of land for the support of the college, and one hundred colonists were sent from England to occupy and cultivate the same, who were to receive a moiety of the produce as the profit of their labor, and to pay the other moiety toward the maintenance of the college. In 1620, George Thorpe was sent out as superintendent, and 300 acres of land was set apart for his sustenance. Other donations

and legacies were made for the endowment of this institution of learning.

In 1619, the Governor for the time being was instructed by the company to see "that each town, borough, and hundred procured by just means a certain number of their children to be brought up in the first elements of literature; that the most towardly of them should be fitted for college, in the building which they purposed to proceed as soon as any profit arose from the estate appropriated to that use; and they earnestly required their help in that pious and important work." In 1621, Rev. Mr. Copeland, chaplain of the Royal James, on her arrival from the East Indies, prevailed on the ship's company to subscribe £100 toward a "free schoole" in the colony of Virginia, and collected other donations in money and books for the same purpose. The school was located in Charles City, as being most central for the colony, and was called the "*East India School*." The company allotted one thousand acres of land, with five servants and an overseer, for the maintenance of the master and usher. The inhabitants made a contribution of £1500 to build a house, for which workmen were sent out in 1622.

The "college" and "free school" thus projected and partially endowed were in the style of the "college" and "free school" and the "free grammar school" of England, and were intended to be of the same character as the college afterward established at Cambridge, and the institution for which "the richer inhabitants" of Boston in 1636 subscribed toward "the maintenance of a free schoolmaster," and the same as, according to Governor Winthrop, in his journal, was erected in Roxbury in 1645, and other towns, and for which every inhabitant bound some house or land for a yearly allowance forever, and many benevolently disposed persons left legacies in their last wills, and the towns made "an allowance out of the common stock," or set apart a portion of land.

"to be improved forever, for the maintenance of a free schoole forever."

The same leading idea can be traced in the educational policy of the Dutch West India Company—which bound itself, in receiving its charter of colonization, "to maintain good and fit preachers, schoolmasters, and comforters of the sick." The company recognized the authority of the established Church of Holland, and the establishment of schools and the appointment of schoolmasters rested conjointly with the company and the *classis* (ecclesiastical authorities) of Amsterdam. When the company granted a special "Charter of Freedom and Exemptions" to the "Patroons," for the purpose of agricultural colonization, they were not only to satisfy the Indians for the lands upon which they should settle, but were to make prompt provision for the support of a minister and schoolmaster, that thus the service of God and zeal for religion might not grow cold, and be neglected among them. In 1633, in the enumeration of the company's officials at Manhattan, Adam Roelandt is mentioned as the schoolmaster, and that school, it is claimed, is still in existence in connection with the Reformed Dutch Church of New York. In the projected settlement at New Amstel on the Delaware, the first settlers were encouraged to proceed by certain conditions, one of which was that the city of Amsterdam should send thither "a proper person for a schoolmaster;" and we find among the colonists who embarked, "Evert Pietersen, who had been approved, after examination before the *classis*, as schoolmaster." In these early efforts to establish schools, we trace the educational policy of the Reformed Church of Holland as indicated by the synod of Wesel in 1568, and matured at the synod of Dort in 1618, by which the training of Christian youth was to be provided for—"I. *In the house, by parents.* II. *In the schools, by schoolmasters.* III. *In the churches, by ministers, elders, and the catechists especially appointed for this purpose.*" Owing in part to the commercial purposes entertained by the companies having charge of the colonization of New York, Virginia, and some other portions of the country, and to the educational and religious institutions of the colonists being not so much a matter of domestic as of foreign policy, these institutions never commanded the regular and

constant attention of the local authorities, or of the settlers themselves.

The outline and most of the essential features of the system of common schools now in operation in the New England states, and the states which have since avowedly adopted the same policy, will be found in the practice of the first settlers of the several towns which composed the original colonies of Massachusetts, Connecticut, and New Haven. The first law on the subject did but little more than declare the motive, and make more widely obligatory the practice which already existed in the several neighborhoods and towns, which had grown up out of the education of these colonists at home, and the circumstances in which they were placed. They did not come here as isolated individuals, drawn together from widely separated homes, entertaining broad differences of opinion on all matters of civil and religious concernment, and kept together by the necessity of self-defence in the eager prosecution of some temporary but profitable adventure. They came after God had set them in families, and they brought with them the best pledges of good behavior, in the relations which father and mother, husband and wife, parents and children, neighbors and friends, establish. They came with a foregone conclusion of permanence, and with all the elements of the social state combined in vigorous activity—every man expecting to find or make occupation in the way in which he had been already trained. They came with earnest religious convictions, made more earnest by the trials of persecution; and the enjoyment of these convictions was a leading motive in their emigration hither. The fundamental articles of their religious creed, that the Bible was the only authoritative expression of the divine will, and that every man was able to judge for himself in its interpretation, made schools necessary, to bring all persons "to a knowledge of the Scriptures," and an understanding "of the main grounds and principles of the Christian religion necessary to salvation." The constitution of civil government adopted by them from the outset, which declared all civil officers elective, and gave to every inhabitant who would take the oath of allegiance the right to vote and to be voted for, and which practically converted political society into a partnership, in which each member had the right to bind the whole firm, made universal education

identical with self-preservation. But aside from these considerations, the natural and acknowledged leaders in this enterprise—the men who, by their religious character, wealth, social position, and previous experience in conducting large business operations, commanded public confidence in church and commonwealth, were educated men—as highly and thoroughly educated as they could be at the best endowed free and grammar schools in England at that period; and not a few of them had enjoyed the advantages of her great universities. These men would naturally seek for their own children the best opportunities of education which could be provided; and it is the crowning glory of these men, that, instead of sending their own children back to England to be educated in grammar schools and colleges, these institutions were established here amid the stumps of the primeval forests; that, instead of setting up “family schools” and “select schools” for the ministers’ sons and magistrates’ sons, the ministers and magistrates were found, not only in town meeting, pleading for an allowance out of the common treasury for the support of a public or common school, and in some instances for a “free school,” but among the families, entreating parents of all classes to send their children to the same school with their own. All this was done in advance of any legislation on the subject, as will be seen from the following facts gleaned from the early records of several of the towns first planted.

TOWN ACTION IN BEHALF OF SCHOOLS.

The earliest records of most of the towns of New England are either obliterated or lost, but among the oldest entries which can now be recovered, the school is mentioned not as a new thing, but as one of the established interests of society, to be looked after and provided for as much as roads and bridges and protection from the Indians. In the first book of records of the town of Boston, under date of April 13, 1634, after providing by ordinance for the keeping of the cattle by “brother Cheesbrough,” “it was then generally agreed upon that our brother Philemon Purmont shall be entreated to become schoolmaster for the teaching and nurturing of children with us.” This was doubtless an elementary school, for in 1636 we find a subscription entered on the records of the town “by the richer

inhabitants,” “for the maintenance of a free schoolmaster, for the youth with us—Mr. Daniel Maude being now also chosen thereunto.” Mr. Maude was a clergyman, a title at that day and in that community which was evidence of his being an educated man. This “free school” was, in the opinion of the writer, not necessarily a school of gratuitous instruction for all, but an endowed school of a higher grade, of the class of the English grammar school, in which many of the first settlers of New England had received their own education at home. Toward the maintenance of this school, the town, in 1642, in advance of any legislation by the General Court, ordered “Deer Island to be improved,” and several persons made bequests in their last wills. Similar provision can be cited from the early records of Salem, Cambridge, Dorchester, and other towns of Massachusetts Bay.

The early records of the town of Hartford are obliterated, but within seven years after the first log-house was erected, thirty pounds are appropriated to the schools, and in April, 1643, it is ordered “that Mr. Andrews shall teach the children in the school one year,” and “he shall have for his pains £16, and therefore the townsmen shall go and inquire who will engage themselves to send their children; and all that do so, shall pay for one quarter, at the least, and for more if they do send them, after the proportion of twenty shillings the year; and if they go any week more than one quarter, they shall pay sixpence a week; and if any would send their children and are not able to pay for their teaching, they shall give notice of it to the townsmen, and they shall pay it at the town’s charge.” Mention is also made of one “Goody Betts,” who kept a “Dame School” after the fashion of Shenstone’s “schoolmistress” at Leasower, in England. Similar entries are found in the town records of Windsor and Wethersfield in advance of any school code by the colony of Connecticut.

The records of the town of New Haven are full of evidence of the interest taken by the leading spirits of the colony, particularly by Governor Theophilus Eaton and Rev. John Davenport, in behalf of schools of every grade, and of the education of every class, from the apprentice boy to those who filled the high places in church and state. The first settlement of the colony was in 1638, and within a year a transaction is recorded, which, while it proves the existence of a school at that

early period, also proclaims the protection which the first settlers extended to the indigent, and their desire to make elementary education universal. In 1639, Thomas Fugill is required by the court to keep Charles Higinson, an indentured apprentice, "at school one year;" or else to advantage him as much in his education as a year's learning comes to. In 1641, the town orders "that a Free School be set up," and "our pastor, Mr. Davenport, together with the magistrates, shall consider what yearly allowance is meet to be given to it out of the common stock of the town, and also what rules and orders are meet to be observed in and about the same." To this school "that famous schoolmaster," Ezekiel Cheever,* "was appointed," "for the better training up of youth in this town, that, through God's blessing, they may be fitted for public service hereafter, in church or commonwealth." Not content with a Grammar School, provision was early made for "the relief of poor scholars at the college at Cambridge," and in 1645 forty bushels of wheat were sent forward for this purpose, and this was followed by other donations, and by a richer consignment of young men to enjoy the advantages of the institution. In 1647, in the distribution of home lots, it was ordered in town meeting, that the magistrates "consider and reserve what lot they shall see meet, and most commodious for a college, which they desire may be set up so soon as their ability will reach thereunto." Among the active promoters of education and schools, the name of Governor Eaton, in connection with Mr. Davenport, is particularly prominent. In 1652, he calls a meeting of the magistrates and elders "to let them know what he has done for a schoolmaster;" that he had written a letter to one Mr. Bower, a schoolmaster of Plymouth, and another to Rev. Mr. Landron, a scholar; and many of the town thought there would be need of two schoolmasters—"one to teach boys to read and write," as well as the "Latin schoolmaster." At another time he reports his correspondence with a teacher in Wethersfield, then with one at old Plymouth, and again with one at Norwalk, "so that the town might never be without a sufficient schoolmaster." He seems to have been considerate of the health of the teachers, and proposes to ex-

cuse one "whose health would not allow him to go on with the work of teaching," which he seems to regard as more laborious than that of the ministry. On another occasion he introduces to the committee a schoolmaster who has come to treat about the school. He is allowed £20 a year, and 30 shillings for his expenses in travel, besides his board and lodgings. He wished to have liberty to visit his friends, "which he proposed to be in harvest time, and that his pay be such as wherewith he may buy books." These particulars show the considerate interest taken by men in local authority in the school and the teacher, in advance of any directory or compulsory legislation of the colony of New Haven. It was owing, in part, to the timely suggestions of Rev. Mr. Davenport, that Gov. Edward Hopkins, of Connecticut, by his will, dated London, March 7, 1657, bequeathed the residue of his estate (after disposing of much of his estate in New England) to trustees residing in New Haven and Hartford, "in full assurance of their trust and faithfulness" in disposing of it, "to give some encouragement in those foreign plantations for the breeding up of hopeful youths both at the grammar school and college, for the public service of the country in future times." By the final disposition and distribution of this estate three grammar schools were established at New Haven, Hartford, and Hadley, which are in existence at this day, among the oldest institutions of this class in America.

The early records of the several towns which subsequently constituted a portion of the colony of New Hampshire, exhibit evidence of a different character and spirit in the first settlers. The plantations on the Piscataqua river were made by proprietors from mere commercial motives, and the settlers were selected in reference to immediate success in that direction; and in these settlements we find no trace of any individual or town action in behalf of education until after their union with the colony of Massachusetts, whose laws made the establishment of schools obligatory.

In the early records of the Rhode Island and Providence Plantations, we find traces of the same educational policy which marked the early history of towns in Massachusetts and Connecticut. According to Callender, in Newport, "so early as 1640, Mr. Lenthal was by vote called to keep a public school for the learning of youth, and for

*See Barnard's *American Teachers and Educators*, vol. i. art. "Ezekiel Cheever."

his encouragement there were granted to him and his heirs, one hundred acres of land, and four more for a house lot. It was also voted that one hundred acres should be appropriated for a school for encouragement of the poorer sort to train up their youth in learning. And Mr. Robert Lenthal, while he continues to keep school, is to have the benefit thereof." The proprietors of other plantations reserved a portion of land for the maintenance of schools, and generally of a "free schoole;" and "Mr. Schoolmaster Turpin," petitions the town of Providence, that he and his heirs, so long as any of them should maintain the worthy art of learning, may be invested in the lands set apart for a school.

These citations show the action of the towns independent of any general legislation by the several colonies of New England—action prompted by their own consciousness of the advantages of education in "Dame Schools," in "Free Schools," in "Grammar Schools" and in "Colleges" at home—aided by the presence among them of "masters" and "ushers," and also of "schoolmasters" and "schoolma'ams" willing to engage in the same vocations in the new townships and villages—stimulated by magistrates and ministers, who had themselves received the best education that such schools could give in England; who inculcated the reading of the Scriptures as of daily obligation, and who believed that the foundations of the state should be laid in the virtue and intelligence of the whole people.

COLONIAL LEGISLATION AND ACTION.

We shall now notice briefly the legislation respecting children and schools of each of the colonies, in the order of their settlement.

VIRGINIA.—Although several attempts were made to establish "Free Schools" and a "College" in Virginia, by the Virginia Company and benevolent individuals, at an earlier day, the first general legislation respecting the education of children by the Colonial Assembly was in 1631, when it was enacted: "It is also thought fit, that upon every Sunday the mynister* shall, halfe an hour or more before evening prayer, examine, catechise, and instruct the youths and ignorant persons of his parish in the ten com-

mandments, the articles of the beliefe, and in the Lord's prayer; and shall diligentlie heere, instruct, and teach the catechisme, sett forth in the book of Common Prayer. And all fathers, mothers, maysters, and mistrisses, shall cause their children, servants, or apprentices, which have not learned their catechisme, to come to church at the time apoynted, obedientlie to heare, and to be ordered by the mynister untill they have learned the same. And yf any of sayd fathers, mothers, maysters & mistresses, children, servants, or apprentices, shall neglect their duties, as the one sorte in not causinge them to come, and the other in refusinge to learne as aforesayd, they shall be censured by the corts in these places holden." To secure the execution of this last clause, it is provided in the oath of the warden, taken before "the justices for the monthlie corts"—"they shall present such mastys and mistresses as shall be delinquent in the catechisinge the youth and ignorant persons. So help you God."

In 1660 an attempt was made to found a college for the supply of educated clergymen. "Whereas the want of able and faithful ministers in this country deprives us of those great blessings and mercies that always attend upon the service of God; which want, by reason of the great distance from our native country, cannot in all probability be always supplied from thence: *Be it enacted*, that for the advance of learning, education of youth, supply of the ministry, and promotion of piety, there be land taken for a college and free school with as much speed as may be convenient, houses erected thereon for entertainment of students and scholars." In the same year it was ordered that a petition be drawn up by the General Assembly to the king for a college and free school; and that there be his letters patent "to collect the charity of well disposed persons in England, for the erecting of colledges & schools in this countrye," and also to bestow universities "to furnish the church here with ministers for the present." And this petition was recommended to the right honorable Governor, Sir William Berkeley. Sir William does not appear, in his reply to the Lords Commissioners of Foreign Plantations, dated 1670, to have been very kindly disposed to public schools of high or low degree.

"Question 23. What course is taken about the instructing the people within your government in the Christian religion;

* In this and some other quotations we have followed the orthography of the original.

and what provision is there made for the payment of your ministry?"

Answer. The same course that is taken in England out of towns; every man according to his ability instructing his children. We have forty-eight parishes, and our ministers are well paid, and by my consent should be better if they would pray oftener and preach less. But of all other commodities, so of this, the worst are sent us, and we had few that we could boast of, since the persecution in Cromwell's tyranny drove divers worthy men hither. But I thank God there are no free schools, nor printing, and I hope we shall not have these hundred years; for learning has brought disobedience and heresy and sects into the world, and printing has divulged them, and libels against the best government. God keep us from both!"

In 1691, "the good design of building a free school and college for the encouragement of learning," was recognized, but it was not till 1693 that an act was passed locating the college, for which a royal charter had been obtained April 8, 1692, with the title of William and Mary, at Middle Plantation, afterward Williamsburgh. Toward its endowment the royal founders granted £2000 in money, land, and a revenue duty on tobacco; and the Assembly enacted an export duty on skins and furs. The money grant of £2000 did not meet with much encouragement from the English Attorney General (Seymour) who was instructed to prepare the charter, who remarked to the Rev. James Blair, the agent of the colony for this purpose, that the money was wanted for other purposes, and that he did not see the slightest occasion for a college in Virginia. The agent represented that the intention of the colony was to educate and qualify young men to be ministers of the Gospel, and begged Mr. Attorney would consider that the people of Virginia had souls to be saved as well as the people of England. "Souls!" said he; "damn your souls! make tobacco." The plan of the building was designed by Sir Christopher Wren. The first commencement was held in 1700, at which, according to Oldmixon, "there was a great concourse of people; several planters came thither in their coaches, and several sloops from New York, Pennsylvania and Maryland; it being a new thing in America to hear graduates perform their academical exercises. The Indians themselves had the curiosity to come to Wil-

liamsburgh on this occasion; and the whole country rejoiced as if they had some relish of learning." After the English fashion, the college had a representative in the General Assembly. As a quitrent for the land granted by the Crown, the students and professors every year marched to the residence of the royal Governor, and presented, and sometimes recited, some Latin verses. On the breaking out of the Revolution the endowments of the college were cut off, and its constitution was somewhat changed.

No general school law was established in Virginia until 1796, although a plan was proposed by Mr. Jefferson in 1779, which recognized three degrees of public instruction, viz.: 1. Elementary schools for all children. 2. Colleges for an extension of instruction suitable for the common purposes of life. 3. A university, an extension of the means of higher culture on the basis of the college at Williamsburgh.

Scattered through the colony were schools in connection with churches, both Episcopal and Presbyterian, and in many families private teachers were employed, and in some cases sons were sent out to England to complete their education.

MASSACHUSETTS.—In 1636, six years after the first settlement of Boston, the General Court of the colony of Massachusetts Bay, which met in Boston on the 8th of September, passed an act appropriating £400 toward the establishment of a college. The sum thus appropriated was more than the whole tax levied on the colony at that time in a single year, and the population scattered through ten or twelve villages did not exceed five thousand persons; but among them were eminent graduates of the university of Cambridge, in England, and all were here for purposes of permanent settlement. In 1638, John Harvard left by will the sum of £779 in money, and a library of over three hundred books. In 1640 the General Court granted to the college the income of the Charlestown ferry; and in 1642 the Governor, with the magistrates and teachers and elders, were empowered to establish statutes and constitutions for the infant institution, and in 1650 granted a charter which still remains the fundamental law of the oldest literary institution in this country.

In 1642 the attention of the General Court was turned to the subject of family instruction in the following enactment:—

"Forasmuch as the good education of children is of singular behoof and benefit to any commonwealth; and whereas many parents and masters are too indulgent and negligent of their duty in this kind:

"It is therefore ordered by this Court and the authority thereof, That the selectmen of every town, in the several precincts and quarters where they dwell, shall have a vigilant eye over their brethren and neighbors, to see, first, that none of them shall suffer so much barbarism in any of their families, as not to endeavor to teach, by themselves or others, their children and apprentices so much learning as may enable them perfectly to read the English tongue, and knowledge of the capital laws, upon penalty of twenty shillings for each neglect therein; also, that all masters of families do, once a week, at least, catechise their children and servants in the grounds and principles of religion, and if any be unable to do so much, that then, at the least, they procure such children or apprentices to learn some short orthodox catechism, without book, that they may be able to answer to the questions that shall be propounded to them out of such catechisms by their parents or masters, or any of the selectmen, where they shall call them to a trial of what they have learned in this kind; and further, that all parents and masters do breed and bring up their children and apprentices in some honest lawful calling, labor or employment, either in husbandry or some other trade profitable for themselves and the commonwealth, if they will not nor cannot train them up in learning to fit them for higher employments; and if any of the selectmen, after admonition by them given to such masters of families, shall find them still negligent of their duty in the particulars aforementioned, whereby children and servants become rude, stubborn and unruly, the said selectmen, with the help of two magistrates, shall take such children or apprentices from them, and place them with some masters for years, boys till they come to twenty-one, and girls eighteen years of age complete, which will more strictly look unto and force them to submit unto government, according to the rules of this order, if by fair means and former instructions they will not be drawn unto it."

In the same year the following general school law was enacted:—"It being one chief project of that old deluder, Satan, to keep men from the knowledge of the Scrip-

tures, as in former times, keeping them in an unknown tongue, so in these latter times, by persuading from the use of tongues, so that at least the true sense and meaning of the original might be clouded and corrupted with false glosses of deceivers; and to the end that learning may not be buried in the grave of our forefathers, in church and commonwealth, the Lord assisting our endeavors:

"It is therefore ordered by this Court and authority thereof, That every township within this jurisdiction, after the Lord hath increased them to the number of fifty householders, shall then forthwith appoint one within their town to teach all such children, as shall resort to him, to write and read, whose wages shall be paid, either by the parents or masters of such children, or by the inhabitants in general, by way of supply, as the major part of those who order the prudentials of the town shall appoint; provided, that those who send their children be not oppressed by paying much more than they can have them taught for in other towns.

"And it is further ordered, That where any town shall increase to the number of one hundred families or householders, they shall set up a grammar school, the masters thereof being able to instruct youths so far as they may be fitted for the university, and if any other town neglect the performance hereof above one year, then every such town shall pay five pounds per annum to the next such school, till they shall perform this order."

With various modifications as to details, but with the same objects steadily in view, viz., the exclusion of "barbarism" from every family, by preventing its having even one untaught and idle child or apprentice, the maintenance of an elementary school in every neighborhood where there were children enough to constitute a school, and of a Latin school in every large town, and of a college for higher culture for the whole colony, the colonial legislature, and the people in the several towns of Massachusetts, maintained an educational system, which, although not as early or as thorough as the school code of Saxony and Wirtemberg, has expanded with the growth of the community in population, wealth, and industrial development, and stimulated and shaped the legislation and efforts of other states in behalf of universal education.

The early records of the colony of Plymouth contain no trace of the zeal for

schools which characterized the colonies of Massachusetts Bay, Connecticut, and New Haven. In 1662 the profits of the codfishery were appropriated to the maintenance of grammar schools in such towns as would make arrangements for the same; and in 1669 towns having fifty families were authorized to raise by rate on all the inhabitants the sum of twelve pounds for this class of schools, "for as much as the maintenance of good literature doth much tend to the advancement of the weal and flourishing state of societies and republics." After the union of the two colonies under one charter, several towns in the old colony were fined for not complying with the provisions of the law of 1647 respecting children and schools.

In addition to the grammar school which each town having one hundred families was obliged by law to maintain, to enable young men to fit for college, in several counties endowed schools were set up; and in 1763 the first of that class of institutions, known and incorporated as academies, was established in the parish of Byfield in the town of Newbury, on a legacy left by Gov. William Dummer. Its objects were the same as those of the town grammar school, but its benefits were not confined to one town, nor was it supported in any degree by taxation.

RHODE ISLAND.—In this colony education was left to individual and parental care, no trace of any legislation on the subject being found in the proceedings of the General Assembly, except to incorporate in 1747 the "Society for the Promotion of Knowledge and Virtue," which was established in Newport in 1730 by the name of the "Company of the Redwood Library;" and in 1764 to grant the charter to the College of Rhode Island, which was first located in Warren, and in 1770 removed to Providence, and in 1804 called, after its most liberal benefactor, Brown University.

CONNECTICUT.—In 1646, Mr. Roger Ludlow was requested to compile "a body of laws for the government of this commonwealth," which was not completed till May, 1650, and is known as the code of 1650. The provisions for the family instruction of children and the maintenance of schools are identically the same as in Massachusetts, and remained on the statute-book, with but slight modifications to give them more efficiency, for one hundred and fifty

years. In the chapter on "capital" offences, it is enacted that if any child above sixteen years of age, and of sufficient understanding, shall curse or smite his father or mother, he shall be put to death, "unless it can be sufficiently testified that the parents have been unchristianly negligent in the education of such children." In the chapter respecting schools, the proposition made by the "Commissioners of the United Colonies," that it be commended to every family which "is able and willing to give yearly but the fourth part of a bushel of corn, or something equivalent thereto," "for the advancement of learning," was approved, and two men were appointed in every town to receive and forward the contributions. This was done in the larger towns of the colonies of Connecticut and New Haven, from time to time, until ten of the principal ministers, in 1700, at Branford, brought each a number of books, and as they laid them on the table, declared—"*I give these books for founding a College in Connecticut;*" and on that foundation rose Yale College. To fit young men for the college at Cambridge, and subsequently for Yale, in 1672 it was ordered by the General Court, "that in every county there shall be set up a grammar school for the use of the county, the master thereof being able to instruct youths so far as they may be fitted for college;" and to aid the county towns in maintaining their schools, six hundred acres of land were appropriated by the General Court to each, "to be improved in the best manner that may be for the benefit of a grammar school in said towns, and to no other use or end whatsoever;" and in 1677 a fine of ten pounds annually is imposed on any county town neglecting to keep the Latin school. In 1690, the county Latin schools of Hartford and New Haven are denominated "Free Schools," probably in reference to the partial endowment of schools of this class by the trustees of the legacy of Governor Hopkins.

As early as 1700, the system of public instruction in Connecticut embraced the following particulars:

1. An obligation on every parent and guardian of children, "not to suffer so much barbarism in any of their families as to have a single child or apprentice unable to read the holy word of God, and the good laws of the colony;" and also, "to bring them up to some lawful calling or employment," under a penalty for each offence.

2. A tax of forty shillings on every thousand pounds of the lists of estates, was collected in every town with the annual state tax, and payable proportionably to those towns only which should keep their schools according to law.

3. A common school in every town having over seventy families, kept for at least six months in the year.

4. A grammar school in each of the four head county towns to fit youth for college, two of which grammar schools were free or endowed.

5. A collegiate school, toward which the General Court made an annual appropriation of £120.

6. Provision for the religious instruction of the Indians.

The system, therefore, embraced every family and town, all classes of children and youth, and all the then recognized grades of schools. There were no select or sectarian schools to classify society at the roots, but all children were regarded with equal favor, and all brought under the assimilating influence of early associations and similar school privileges. Here was the foundation laid, not only for universal education, but for a practical, political, and social equality, which has never been surpassed in the history of any other community.

NEW HAMPSHIRE.—From 1623 to 1641, the early records of the first settlements within the present limits of New Hampshire exhibit no trace of educational enactments; from 1641 to 1680, the school laws of Massachusetts prevailed, and the presence of such men as Philemon Purmont and Daniel Maude, who were the first schoolmasters of that colony, must have contributed to inaugurate the policy of local and endowed schools. When the necessities of the college at Cambridge were made known, the people of Portsmouth, in town meeting, made a collection of sixty pounds, with a pledge to continue the same amount for seven years, "for the perpetuating of knowledge both religious and civil among us and our posterity after us." In the original grants for towns one lot was reserved for the support of schools.

In 1680 New Hampshire became a separate colony, and in 1693 the Colonial Assembly enacted "that for the building and repairing of meeting houses, ministers' houses, and allowing a salary to a schoolmaster in each town within this province,

the selectmen shall raise by an equal rate an assessment upon the inhabitants;" and in 1719 it was ordained that every town having fifty householders should be constantly provided with a schoolmaster to teach children to read and write; and those having one hundred should maintain a grammar school, to be kept by some decent person, of good conversation, well instructed in the tongues. In 1721 it was ordered that not only each town but each parish of one hundred families should be constantly provided with a grammar school, or forfeit the sum of twenty pounds to the treasury of the province. This system of elementary and secondary instruction continued substantially until the adoption of the state constitution in 1792.

In 1770 Dr. Wheelock removed a school which he had established in Lebanon, Connecticut, under the name of "Moor's Indian Charity School," to the depths of the forests in the western part of New Hampshire. Here, side by side with the school for Indians, he organized another institution, termed a college in the charter granted by Governor Wentworth in 1769, and which held its first commencement in 1771, with four graduates, one of whom was John Wheelock, the second president of the institution, which was called Dartmouth College after Lord Dartmouth, one of the largest benefactors of the Charity School.

At the close of the colonial period of our history, according to Noah Webster, the condition of the educational system in Connecticut and New England was as follows:

"The law of Connecticut ordains that every town or parish containing seventy householders, shall keep an English school, at least eleven months in the year; and towns containing a less number, at least six months in the year. Every town keeping a public school is entitled to draw from the treasury of the state a certain sum of money, proportioned to its census in the list of property which furnishes the rule of taxation. This sum might have been originally sufficient to support one school in each town or parish, but in modern times is divided among a number, and the deficiency of money to support the schools is raised upon the estates of the people, in the manner the public taxes are assessed. To extend the benefits of this establishment to all the inhabitants, large towns and parishes are di-

vided into districts, each of which is supposed able to furnish a competent number of scholars for one school. In each district a house is erected for the purpose by the inhabitants of that district, who hire a master, furnish wood, and tax themselves to pay all expenses not provided for by the public money. The school is kept during the winter months, when every farmer can spare his sons. In this manner, every child in the state has access to a school. In the summer, a woman is hired to teach small children, who are not fit for any kind of labor. In the large towns, schools, either public or private, are kept the whole year; and in every county town, a grammar school is established by law.

"The beneficial effects of these institutions will be experienced for ages. Next to the establishments in favor of religion, they have been the nurseries of well-informed citizens, brave soldiers and wise legislators. A people thus informed are capable of understanding their rights and of discovering the means to secure them. In the next place, our forefathers took measures to preserve the reputation of schools and the morals of youth, by making the teaching them an honorable employment. Every town or district has a committee, whose duty is to procure a master of talents and character; and the practice is to procure a man of the best character in the town or neighborhood. The wealthy towns apply to young men of liberal education, who, after taking the bachelor's degree, usually keep school a year or two before they enter upon a profession. One of the most unfortunate circumstances to education in the Middle and Southern states, is an opinion that school-keeping is a mean employment, fit only for persons of low character. The wretches who keep the schools in those states very frequently degrade the employment; but the misfortune is, public opinion supposes the employment degrades the man: of course no gentleman will undertake to teach children while in popular estimation he must forfeit his rank and character by the employment. Until public opinion is corrected by some great examples, the common schools, what few there are in those states, must continue in the hands of such vagabonds as wander about the country."

"Nearly connected with the establishment of schools is the circulation of newspapers in New England. This is both a conse-

quence and a cause of a general diffusion of letters. In Connecticut, almost every man reads a paper every week. In the year 1785, I took some pains to ascertain the number of papers printed weekly in Connecticut and in the Southern states. I found the number in Connecticut to be nearly eight thousand; which was equal to that published in the whole territory south of Pennsylvania. By means of this general circulation of public papers, the people are informed of all political affairs; and their representatives are often prepared to deliberate on propositions made to the legislature.

"Another institution favorable to knowledge is the establishment of parish libraries. These are procured by subscription, but they are numerous, the expense not being considerable, and the desire of reading universal. One hundred volumes of books, selected from the best writers, on ethics, divinity, and history, and read by the principal inhabitants of a town or village, will have an amazing influence in spreading knowledge, correcting the morals, and softening the manners of a nation. I am acquainted with parishes where almost every householder has read the works of Addison, Sherlock, Atterbury, Watts, Young, and other similar writings; and will converse well on the subjects of which they treat."

NEW YORK.—In the early history of the settlements of the New Netherlands, the school was regarded as an appendage of the church, and the schoolmaster was paid in part out of the funds of the government. Down to its organization as a royal province of England, a parochial school existed in every parish. In 1658 a petition of the burgomasters and schepens of New Amsterdam was forwarded to the West India Company, in which "it is represented that the youth of this place and the neighborhood are increasing in number gradually, and that most of them can read and write, but that some of the citizens and inhabitants would like to send their children to a school the principal of which understands Latin, but are not able to do so without sending them to New England; furthermore, they have not the means to hire a Latin schoolmaster, expressly for themselves, from New England, and therefore they ask that the West India Company will send out a fit person as Latin schoolmaster, not doubting that the number of persons who will send

their children to such teacher will from year to year increase, until an academy shall be formed whereby this place to great splendor will have attained, for which, next to God, the honorable company which shall have sent such teacher here shall have laud and praise." In compliance with this petition, Dr. Alexander Carolus Curtius, a Latin master of Lithuania, was sent out by the company. The burgomasters proposed to give him five hundred guilders annually out of the city treasury, with the use of a house and garden, and the privilege of collecting a tuition of six guilders per quarter of each scholar. Dr. Curtius proved not to be a good disciplinarian, and parents complained to the authorities that "his pupils beat each other, and tore the clothes from each other's backs." The doctor retorted that he could not interfere, "as his hands were tied, as some of the parents forbade him punishing their children." He accordingly gave up his place and returned to Holland, and was succeeded in the mastership by Rev. Ægidius Luyck in 1662. His school had a high reputation, and was resorted to by pupils from Virginia, Fort Orange, and the Delaware.

After the establishment of the English authority, the governor claimed the privilege of licensing teachers even for the church schools, but no general school policy was established. In 1702 a free grammar school was founded and built on the King's Farm, and in 1732 a "Free School," for teaching the Latin and Greek and practical branches of mathematics, was incorporated by law. The preamble of the act of incorporation opens as follows: "Whereas the youth of this colony are found by manifold experience to be not inferior in their natural genius to the youth of any other country in the world, therefore be it enacted," etc. In 1710, the Society for the Propagation of the Gospel in Foreign Parts established a charity school in connection with the Episcopal church, which is still in existence, and is now known as the Trinity School. In 1750, Charles Dutens announced to the public "that he taught a school for the use of young ladies and gentlemen, whose love of learning might incline them to take lessons from him in French, at his house on Broad street, near the Long Bridge, where he also makes and vends finger and ear rings, solitaires, stay-hooks and lockets, and sets diamonds, rubies, and other stones. Science

and virtue are two sisters, which the most part of the New York ladies possess," etc.

Judge Smith, in his "History of the Province of New York," when speaking of the action of the legislature for founding a college in 1746, says: "To the disgrace of our first planters, who beyond comparison surpassed their eastern neighbors in opulence, Mr. Delancy, a graduate of the University of Cambridge (England), and Mr. Smith, were for many years the only academics in this province, except such as were in holy orders; and so late as the period we are now examining (1750), the author did not recollect above thirteen men, the youngest of whom had his bachelor's degree at the age of seventeen, but two months before the passing of the above law, the first toward erecting a college in this colony, though at a distance of above one hundred and twenty years after its discovery and settlement of the capital by Dutch progenitors from Amsterdam."

In 1754 a royal charter was obtained for a college in New York, with the style of King's College, which came into possession of a fund raised by a lottery authorized for this purpose by the Assembly in 1746, and of a grant of land conveyed to its governors by Trinity Church in 1755. Out of this grant, Columbia College is now (1860) realizing an income of \$60,000 a year. The first commencement was celebrated in 1758.

"For the advantage of our new intended college" (King's), "and the use and ornament of the city," a number of eminent citizens of New York, in 1754, united in an association to form a library, which in 1772 was incorporated with the title of the "New York Society Library."

MARYLAND.—The first settlement was effected within the present limits of Maryland in 1634; and in the years immediately following, we find no record of any marked individual or legislative effort to establish institutions of learning. The first act of the colonial Assembly is entitled a "Supplicatory Act to their sacred majesties for erecting of schools," which was passed in 1694, and repealed or superseded by an act entitled a "Petitionary Act" for the same purpose. Appealing to the royal liberality, which had been extended to the neighboring colony of Virginia in the institution of the college, "a place of universal study," the Assembly ask, "that for the propagation of the Gospel, and the education of the youth of this province

in good letters and manners, that a certain place or places for a free school or schools, or place of study of Latin, Greek, writing and the like, consisting of one master, one usher, and one writing-master or scribe to a school, and 100 scholars," be established in Arundel County, of which the Archbishop of Canterbury should be chancellor, and to be called "King William's School;" and a similar free school is asked for in each county, to be established from time to time as the resources of the several counties may suffice. To increase the educational resources of the counties, in 1717 it was enacted that an additional duty of twenty shillings current money per poll should be levied on all Irish servants, being papists, to prevent the growth of popery by the importation of too great a number of them into this province, and also an additional duty of twenty shillings current money per poll on all negroes, for raising a fund for the use of public schools. In 1723, "an act for the encouragement of learning, and erecting schools in the several counties," was passed, with a preamble setting forth that preceding Assemblies have had it much at heart, "to provide for the liberal and pious education of the youth of the province, and improving their natural abilities and acuteness (which seem not to be inferior to any), so as to be fitted for the discharge of their duties in the several stations and employments in it, either in regard to church or state." By this act seven visitors are appointed in each county, with corporate powers to receive and hold estate to the value of £100 per annum; and they are authorized with all convenient speed to purchase, out of funds realized from revenues already set apart for this purpose, one hundred acres more or less, one moiety of which is to serve for making corn, grain, and pasturage for the benefit and use of the master, who is prohibited growing tobacco, or permitting it by others on said farm. The visitors are directed to employ good schoolmasters, members of the Church of England, and of pious and exemplary lives and conversation, and capable of teaching well the grammar, good writing, and the mathematics, if such can be conveniently got, on a salary of £20 per annum, and the use of the plantation. In 1728 the master of each public school is directed "to teach as many poor children gratis as the majority of the visitors should order."

Up to the establishment of the state gov-

ernment in 1777, there was no system of common schools for elementary instruction in operation in Maryland. "A free school," like the free endowed grammar school of England, was established in a majority of counties, two of which were subsequently converted into colleges, that of Charlestown in Kent county, into Washington College in 1782, and the second at Annapolis into St. John's College in 1784—the former "in honorable and perpetual memory of his excellency General Washington, the illustrious and virtuous commander-in-chief of the armies of the United States."

In 1696, Rev. Thomas Bray, then residing in the parish of Sheldon, England, was made commissary of Maryland, to establish the Church of England in the colony. His first act was to inaugurate a plan of parochial libraries for the use of ministers in each parish. Through his influence, Princess Anne made a benefaction for this purpose, and in acknowledgment of the honor of having the capital of the province called after her name (Annapolis), donated books to the value of four hundred pounds to the parish library, which he called "the Annapolitan Library." By his influence in England a plan of "lending libraries" was projected in every deanery throughout the kingdom, and carried out.

NEW JERSEY.—In the history of New Jersey as a colony we find no trace of any general legislation or governmental action in behalf of schools. Scattered at wide intervals over the state were schools kept by clergymen in connection with their churches.

In 1748 a charter of incorporation for the College of New Jersey was obtained from George II., during the administration of Governor Belcher, "for the instruction of youth in the learned languages and liberal arts and sciences." During the administration of Governor Franklin in 1770, a second college was chartered, with the name of Queen's (now Rutgers') College, as a school of theology for the Reformed Dutch Church. Neither of the institutions received any aid from the government.

PENNSYLVANIA.—The frame of government of the province of Pennsylvania, dated April 25th, 1682, drawn up by William Penn before leaving England, contains the following provision: "The governor and

provincial council shall erect and order all public schools and reward the authors of useful sciences and laudable inventions in said province." In the laws agreed upon a few months later in the same year by the governor and divers freemen of the province in England, it is provided "that all children within this province of the age of twelve years shall be taught some useful trade, or skill, to the end that none be idle, but that the poor may work to live, and the rich, if they become poor, may not want." In 1683 the governor and council in Philadelphia, "having taken into their serious consideration the great necessity there is of a schoolmaster in the town of Philadelphia, sent for Enoch Flower, an inhabitant of said town, who for twenty years past hath been exercised in that care and employment in England, to whom having communicated their minds, he embraced it upon the following terms: to learn to read English, 4s. by the quarter;" to learn to read and write, 6s.; read, write and cast accounts, 8s.; for boarding a scholar, £10 per year. In 1689 the Society of Friends established a Latin school of which George Keith was the first teacher. In 1725 Rev. Francis Alison, a native of Ireland, but educated at Glasgow, became pastor of the Presbyterian church in New London, in Chester county, and opened a school there, which had great reputation. He at one time resided at Thunder Hill, in Maryland, where he educated many young men who were afterward distinguished in the Revolutionary struggle. He was subsequently Provost of the college at Philadelphia.

In 1749 Benjamin Franklin published his "*Proposals relating to the Education of Youth in Pennsylvania*," out of which originated subsequently an academy and charity school, and ultimately the University of Pennsylvania. At the head of the English department of the academy in 1751 was Mr. Dove, who was then engaged in giving public lectures in experimental philosophy with apparatus—an early lyceum or popular lecturer.

In 1743 the American Philosophical Society originated in a "Proposal for Promoting Useful Knowledge," published by Benjamin Franklin, which, after various forms of organization, took its present name and shape on the 2d of January, 1769.

In 1765 the Medical School originated with the appointment of Dr. Morgan to the

professorship of the theory and practice of physic; in 1767 it was fully organized, and in 1768 degrees in medicine were for the first time conferred.

Among the denominational schools which grew up in the absence of any general legislation on the subject, was a Moravian school for boys at Nazareth in 1747, and for girls at Bethlehem 1749, both of which are still in existence, and the latter, especially, since 1789, has been one of the most flourishing female seminaries in this country.

DELAWARE.—In the early settlements of the Swedes and Dutch in Delaware, the policy of connecting a school with the church was probably imperfectly carried out, but there is no historical trace of its existence. The only school legislation of the colony extant, is an act incorporating "the Trustees of the Grammar School in the borough of Wilmington, and county of New Castle," dated April 10, 1773.

NORTH CAROLINA.—In North Carolina for fifty years, the policy of the provincial authorities was to discourage all forms of religious and educational activity outside of the Church of England, to the extent of forbidding expressly the establishment of printing presses. The first act on record relating to schools, in 1764, was "for the building of a house for a school, and the residence of a schoolmaster in the town of Newbern"—appropriating the half of two lots, before set apart for a church, for this purpose. In 1766 another act was passed incorporating trustees for this school, with the preamble "that a number of well-disposed persons, taking into consideration the great necessity of having a proper school, or public seminary of learning established, whereby the present generation may be brought up and instructed in the principles of the Christian religion, and fitted for the several offices and purposes of life, have at great expense erected a school-house for this purpose;" and providing that the master of the school shall be "of the established Church of England, and licensed by the governor." Similar acts were passed in 1770 and 1779 for schools at Edenton and Hillsborough. In 1770 an act, reciting that a very promising experiment had been made in the town of Charlotte in the county of Mecklenburg, with a seminary of learning "a number of youths there taught making great advancement in the knowledge of the

learned languages, and in the rudiments of the arts and sciences, having gone to various colleges in distant parts of America," incorporates the same with the name of Queen's College. This act was repealed by proclamation in the next year, but in 1777 it was reincorporated by name of "Liberty Hall." With the downfall of the royal authority, and the religious party which had swayed the colony, a new educational policy was inaugurated.

SOUTH CAROLINA.—In the early history of the colony of South Carolina, as of several other colonies, the first efforts to establish schools were in connection with the predominant church of the settlers, *i. e.*, of the Church of England, through the aid of the "Venerable Society for Propagating the Gospel in Foreign Parts." By the missionaries of that society charity schools were established in several parishes, some of which were afterward endowed by individuals, and incorporated by act of the legislature, and called "Free Schools." In 1710 a free school of this character was established at Goosecreek, and in 1712 in Charleston; and by the general act of February 22, 1722, the justices of the county courts were authorized to erect a free school in each county and precinct, to be supported by assessment on land and negroes. These schools were bound to teach ten poor children each, if sent by said justices. In 1724, a memorial to the "Venerable Society" from the parish of Dorchester sets forth—"The chief source of irreligion here is the want of schools; and we may justly be apprehensive, that if our children continue longer to be deprived of opportunities of being instructed, Christianity will of course decay insensibly, and we shall have a generation of our own as ignorant as the native Indians." The society sent out schoolmasters to this and other parishes, and about 2000 volumes of bound books. In 1721 Mr. Richard Beresford bequeathed to the parish of St. Thomas and St. Dennis, in trust, for the purpose of educating the poor, £6500; and in 1732 Mr. Richard Harris, for the same object, £1000. In 1728 Rev. Richard Ludlam bequeathed his whole estate to the parish of St. James, which in 1778 amounted to £15,272. Other bequests for the same objects were made at different times before the Revolution. In 1743 Rev. Alexander Garden wrote to the society that the negro

school consisted of thirty children, and in 1750 that it was going on with all desirable success. In 1748 a library was founded in Charleston by an association of seventeen young men, whose first object was to collect new pamphlets and magazines published in Great Britain, but in the course of a year embraced the purchase of books. After many delays and refusals, an act of incorporation was obtained in 1754. There is but one older library in this country.

GEORGIA.—The earliest effort to establish schools in Georgia was made by the Rev. George Whitefield. Before leaving England in 1737, he had projected an Orphan House, after the plan of that of Dr. Franké, at Halle, of which an account about that time appeared in English. His first visit to Savannah in 1738 satisfied him of the necessity of a charity school for poor and neglected children, and in the course of that year he returned to England to obtain his ordination as priest and collect funds for his educational enterprise. The trustees of the colony gave him five hundred acres of land upon which to erect his buildings. These were selected about ten miles out of Savannah, and on the 25th of March, 1740, he laid the first brick of the house, which he called Bethesda, or House of Mercy, and opened his school in temporary shelters with forty children. In the fall of the same year he made a collection and preaching tour in New England, during which he collected over £800 for his charity. After disasters by fire, etc., the Orphan House property was bequeathed to Selina, Countess of Huntingdon, in trust for the purposes originally designed, and subsequently incorporated for this purpose. On her death, and after the Revolution, the legislature transferred the property to thirteen trustees, to manage the estate and make regulations for an academy in the county of Chatham. Schools were established by the missionaries sent out by the Society for the Propagation of the Gospel at Savannah, Augusta, and Frederica, and by the Moravians and Huguenots in their respective settlements.

RESULTS AT THE CLOSE OF OUR COLONIAL HISTORY.

The educational systems and provisions of the colonial period of the United States were, especially in its earlier portion, closely connected with the ecclesiastical systems of

the colonies. Schools were maintained by individual youth trained up in very many cases, because it was a duty to prepare useful future members of the church, which in some of the colonies was also the state.

In three states, Massachusetts, Connecticut, and New Hampshire, it was very early made the legal duty of parents and towns to make provision for the education of youth. Elsewhere, such efforts as were made, aside from the natural desire of parents to afford their children such an education as was suitable to their rank in life, or such as would aid their subsequent progress and prosperity, were, generally speaking, put forth by clergymen, ecclesiastical bodies, or pious laymen, for colonial institutions for secondary education were not very numerous, including the town grammar schools of New England, and a small number of endowed or free schools. In these two classes of institutions, a small number of pupils were prepared to enter college. A far greater number of college students, more especially in the middle and southern states, were prepared by clergymen, who received each a small number of pupils into his family, as a means of securing some additional income. There were also a few private schools of considerable reputation and value.

In connection with these educational agencies, the small parochial and social libraries, and the two or three associations for the increase and dissemination of science, should also be referred to.

The institutions of superior education, established during the colonial period, were seven in number; namely, Harvard, William and Mary, Yale, Nassau Hall, Rutgers, Brown, and Columbia. From these came forth nearly all the liberally educated men of that day, though it was a custom of a few of the wealthiest families of the day to graduate their sons at a European university, Oxford or Cambridge being commonly selected. The colonial colleges, like the schools preparatory to them, were substantially church institutions, their pupils being the stock from which the clerical body was reinforced.

It was not until the very close of the colonial period that a few special or professional schools were established. A school of medicine, sufficiently entitled to the name, gave degrees in New York in 1769; a sort of theological seminary was founded in Pennsylvania in 1778; while the first law school

only arose the year after the peace of 1783. Professorships, however, in these departments, had afforded a certain amount of instruction in all of them as part of the college course, long before; indeed, from the foundation of the earliest colleges.

Female education was comparatively neglected in the colonial period. Girls were taught housewifely duties far more assiduously than learning, and often depended upon home instruction for whatever education they received; neither the common schools nor those for secondary education affording or being designed to afford accommodation for them.

That special supplementary training which at the present day does so much to alleviate the misfortunes of the blind, the deaf and dumb, and the feeble minded, was quite unknown, nor was the idea entertained that such a training was practicable.

CHAPTER II.

REVOLUTIONARY AND TRANSITIONAL PERIOD.

THE immediate effects of the war of the Revolution were adverse, and, in certain aspects, disastrous to the interests of education. Dangers so great and imminent almost engrossed all thought and absorbed all exertion and resources. Children, indeed, were not left without the instruction of the family and the local elementary school, and they were, thank God, everywhere surrounded with the most stirring exhibitions of heroic patriotism and the self-sacrificing virtues. But too generally the elementary school and the teacher, never properly appreciated, gave way to more pressing and universally-felt necessities. Higher education for a time experienced a severe shock. The calls of patriotism withdrew many young men from the colleges and the preparatory schools, and prevented many more from resorting thither. The impoverishment of the country, and the demand for immediate action, compelled others to relinquish an extended course of professional study. In some cases the presence of armies caused a suspension of college instruction and the dispersion of faculty and students, and even converted the college buildings into barracks. But the action and influence of this period were not wholly adverse or disastrous to schools and higher education. The

public mind was stimulated into greatly increased activity—now, for the first time, assuming a collective existence and national characteristics. The heart of the people was thoroughly penetrated by the spirit of self-sacrifice, in cheerfully bearing the burdens of society with diminished resources, and in repairing the waste and destruction of the war. The examples of wisdom and eloquence in council, and courage and heroism in the field, and of patient endurance of privation and hardship, and towering above all and outshining all, the colossal greatness and transparent purity of the character of Washington—these were lessons for the head and the heart of a young nation, which amply compensated for the partial and temporary suspension of schools. In the discussion and reconstruction of political society, in framing constitutions and organic legislation, and in the disposition of unsettled territory, the importance of the elementary school, the academy, and the college, was recognized and provided for.

Among the earliest to do justice to this great subject was Noah Webster, who, in a series of essays, first published in a New York paper, and copied extensively by the press in other parts of the country, and afterward embodied in a volume with other fugitive pieces, advocated a liberal policy by the national and local governments in favor of a broad system of education. "Here every class of people should know and love the laws. This knowledge should be diffused by means of schools and newspapers; and an attachment to the laws may be formed by early impression upon the mind. Two regulations are essential to the continuance of republican governments: 1. Such a distribution of lands and such principles of descent and alienation as shall give every citizen a power of acquiring what his industry merits. 2. Such a system of education as shall give every citizen an opportunity of acquiring knowledge, and fitting himself for places of trust." "Education should be the first care of a legislature; not merely the institution of schools, but the furnishing them with the best men for teachers. A good system of schools should be the first article in a code of political regulations; for it is much easier to introduce and establish an effectual system for preserving morals, than to correct by penal statutes the ill effects of a bad system. I am so fully persuaded of this, that I should almost adore that great man who shall change

our practice and opinions, and make it respectable for the first and best men to superintend the education of youth." As specimens of the utterances of eminent public men on this subject, we cite the following:

"Promote, as an object of primary importance, institutions for the general diffusion of knowledge. In proportion as the structure of a government gives force to public opinion, it is essential that public opinion should be enlightened." GEORGE WASHINGTON.

"The wisdom and generosity of the legislature in making liberal appropriations in money for the benefit of schools, academies and colleges, is an equal honor to them and their constituents, a proof of their veneration for letters and science, and a portent of great and lasting good to North and South America, and to the world. Great is truth—great is liberty—great is humanity—and they must and will prevail." JOHN ADAMS.

"I look to the diffusion of light and education as the resources most to be relied on for ameliorating the condition, promoting the virtue, and advancing the happiness of man. And I do hope, in the present spirit of extending to the great mass of mankind the blessings of instruction, I see a prospect of great advancement in the happiness of the human race, and this may proceed to an indefinite, although not an infinite, degree. A system of general instruction, which shall reach every description of our citizens, from the richest to the poorest, as it was the earliest, so shall it be the latest of all the public concerns in which I shall permit myself to take an interest. Give it to us, in any shape, and receive for the inestimable boon the thanks of the young, and the blessings of the old, who are past all other services but prayers for the prosperity of their country, and blessings to those who promote it."

THOMAS JEFFERSON.

"Learned institutions ought to be the favorite objects with every free people; they throw that light over the public mind which is the best security against crafty and dangerous encroachments on the public liberty. They multiply the educated individuals, from among whom the people may elect a due portion of their public agents of every description, more especially of those who are to frame the laws: by the perspicuity, the

consistency, and the stability, as well as by the justice and equal spirit of which, the great social purposes are to be answered."

JAMES MADISON.

"Moral, political and intellectual improvement, are duties assigned by the Author of our existence to social, no less than to individual man. For the fulfilment of these duties, governments are invested with power, and to the attainment of these ends, the exercise of this power is a duty sacred and indispensable."

JOHN QUINCY ADAMS.

"For the purpose of promoting the happiness of the State, it is absolutely necessary that our government, which unites into one all the minds of the State, should possess in an eminent degree not only the understanding, the passions, and the will, but above all, the moral faculty and the conscience of an individual. Nothing can be politically right that is morally wrong; and no necessity can ever sanctify a law that is contrary to equity. Virtue is the soul of a Republic. To promote this, laws for the suppression of vice and immorality will be as ineffectual as the increase and enlargement of jails. There is but one method of preventing crime and of rendering a republican form of government durable; and that is, by disseminating the seeds of virtue and knowledge through every part of the State, by means of proper modes and places of education; and this can be done effectually only by the interference and aid of the legislature. I am so deeply impressed with this opinion, that were this the last evening of my life, I would not only say to the asylum of my ancestors and my beloved native country, with the patriot of Venice, '*Esto perpetua*,' but I would add, as the best proof of my affection for her, my parting advice to the guardians of her liberties, establish and support PUBLIC SCHOOLS in every part of the State."

BENJAMIN RUSH.

"There is one object which I earnestly recommend to your notice and patronage—I mean our institutions for the education of youth. The importance of common schools is best estimated by the good effects of them where they most abound and are best regulated. Our ancestors have transmitted to us many excellent institutions, matured by the wisdom and experience of ages. Let them descend to posterity, accompanied with others, which, by promoting useful knowledge,

and multiplying the blessings of social order, diffusing the influence of moral obligations, may be reputable to us, and beneficial to them."

JOHN JAY.

"The first duty of government, and the surest evidence of good government, is the encouragement of education. A general diffusion of knowledge is the precursor and protector of republican institutions, and in it we must confide as the conservative power that will watch over our liberties and guard them against fraud, intrigue, corruption and violence. I consider the system of our Common Schools as the palladium of our freedom, for no reasonable apprehension can be entertained of its subversion, as long as the great body of the people are enlightened by education. To increase the funds, to extend the benefits, and to remedy the defects of this excellent system, is worthy of your most deliberate attention. I can not recommend in terms too strong and impressive, as munificent appropriations as the faculties of the State will authorize for all establishments connected with the interests of education, the exaltation of literature and science, and the improvement of the human mind."

DE WITT CLINTON.

"The parent who sends his son into the world uneducated, defrauds the community of a lawful citizen, and bequeaths to it a nuisance."

CHANCELLOR KENT.

In the discussions which have taken place in the press and in the halls of legislation on the subject, the experience of the New England States is constantly cited as an irrefutable argument in favor of public schools and universal education. The character and value of this example are admirably set forth by Daniel Webster:

"In this particular, New England may be allowed to claim, I think, a merit of a peculiar character. She early adopted and has constantly maintained the principle, that it is the undoubted right, and the bounden duty of government, to provide for the instruction of all youth. That which is elsewhere left to chance, or to charity, we secure by law. For the purpose of public instruction, we hold every man subject to taxation in proportion to his property, and we look not to the question, whether he himself have, or have not, children to be benefited by the education for which he pays. We regard it

as a wise and liberal system of police, by which property, and life, and the peace of society are secured. We seek to prevent in some measure the extension of the penal code, by inspiring a salutary and conservative principle of virtue and of knowledge in an early age. We hope to excite a feeling of respectability, and a sense of character, by enlarging the capacity, and increasing the sphere of intellectual enjoyment. By general instruction, we seek, as far as possible, to purify the whole moral atmosphere; to keep good sentiments uppermost, and to turn the strong current of feeling and opinion, as well as the censures of the law, and the denunciations of religion, against immorality and crime. We hope for a security, beyond the law, and above the law, in the prevalence of enlightened and well-principled moral sentiment. We hope to continue and prolong the time when, in the villages and farm-houses of New England, there may be undisturbed sleep within unbarred doors. And knowing that our government rests directly on the public will, that we may preserve it, we endeavor to give a safe and proper direction to that public will. We do not, indeed, expect all men to be philosophers or statesmen; but we confidently trust, and our expectation of the duration of our system of government rests on that trust, that by the diffusion of general knowledge and good and virtuous sentiments, the political fabric may be secure, as well against open violence and overthrow, as against the slow but sure undermining of licentiousness."

The action of Congress, and of the early constitutional conventions of the several states, shows how nobly the public mind responded to these appeals.

On the 17th of May, 1784, Mr. Jefferson, as chairman of a committee for that purpose, introduced into the old Congress an ordinance respecting the disposition of the public lands; but this contained no reference to schools or education. On the 4th of March, 1785, another ordinance was introduced—by whom does not appear on the journal—and on the 16th of the same month was recommended to a committee consisting of Pierce Long of New Hampshire, Rufus King of Massachusetts, David Howell of Rhode Island, Wm. S. Johnson of Connecticut, R. R. Livingston of New York, Charles Stewart of New Jersey, Joseph Gardner of Pennsylvania, John Henry of Maryland, William Grayson of Virginia, Hugh Williamson of

North Carolina, John Bull of South Carolina, and William Houston of Georgia. On the 14th of April following, this committee reported the ordinance—by whom drawn up no clue is given—which, after being perfected, was passed the 20th of May following, and became the foundation of the existing land system of the United States.

By one of its provisions, the sixteenth section of every township was reserved "*for the maintenance of public schools*;" or, in other words, one section out of the thirty-six composing each township. The same provision was incorporated in the large land sale, in 1786, to the Ohio Company, and the following year in Judge Symmes' purchase. The celebrated ordinance of 1787, for the government of the territory north-west of the River Ohio, and which confirmed the provisions of the land ordinance of 1785, provides further, that, "RELIGION, MORALITY and KNOWLEDGE being necessary to good government and the happiness of mankind, SCHOOLS, AND THE MEANS OF EDUCATION, SHALL BE FOREVER ENCOURAGED." From that day to the present, this noble policy has been confirmed and extended, till its blessings now reach even the distant shores of the Pacific, and FIFTY MILLIONS OF ACRES of the public domain have been set apart and consecrated to the high and ennobling purposes of education, together with five per cent. of the net proceeds of the sales of all public lands in each of the states and territories in which they are situated.

During this period individual beneficence and associated enterprise began to be directed to the building up, furnishing, and maintaining libraries, colleges, academies, and scientific institutions. Societies for the promotion of science and literature, and schools for professional training, were founded and incorporated, and men of even moderate fortune began to feel the luxury of doing good, and to see that a wise endowment for the relief of suffering, the diffusion of knowledge, the discovery of the laws of nature, the application of the principles of science to the useful arts, the conservation of good morals, and the spread of religious truth, is, in the best sense of the term, a good investment—an investment productive of the greatest amount of the highest good both to the donor and his posterity, and which makes the residue of the property from which it is taken both more secure and more valuable.

CHAPTER III.

STATE AND NATIONAL ACTION.

INTRODUCTION.

We shall not attempt to follow out in separate channels the action of the National and State governments, which together constitute the legislative power of the United States, both of which have been exerted on the education and educational institutions of the whole country; but confine ourselves mainly to an exposition of the State systems of public instruction, with an incidental notice of such national institutions as belong to each department treated of. Before entering on this exposition, we give from the most reliable cotemporaneous authority (*A Historical and Geographical Account of the United States. By Noah Webster, Jr., 1804*), a comprehensive survey of the state of learning and of educational institutions in the whole country at the opening of this century.

I. EDUCATIONAL INSTITUTIONS ABOUT 1800.

NEW HAMPSHIRE.

Of the State of Learning.—An old law of the colony (1719), directed every town, containing one hundred families, to provide a grammar school; in which also was to be taught reading, writing and arithmetic. This law was not well executed. Since the revolution, a law of the state has directed the maintenance of schools in the several towns under certain penalties. There are also social libraries; and newspapers circulate in almost all parts of the state.

Of the Academies.—At Exeter an academy, founded by John Phillips, Esq., and called after his name, was incorporated in 1781. At Atkinson, an academy founded by Nathaniel Peabody, Esq., was incorporated in 1790. Academies are also found at Amherst, Charlestown and Concord.

Of Dartmouth College.—At Hanover, in Grafton county, is a college founded by Dr. Wheelock in 1769, with a special view to the instruction of young Indians. Although this object has in a great measure failed, the institution is prosperous and highly useful. The number of students is seldom less than one hundred and fifty; its funds, consisting of new lands, are increasing in value; its library and apparatus are tolerably complete; its situation is pleasant and ad-

vantageous. It takes its name from a principal benefactor, the Earl of Dartmouth.

VERMONT.

Of the State of Learning.—Learning receives from the people of Vermont all the encouragement that can be expected from an agricultural people in a new settlement. Schools for common education are planted in every part of the state; and two colleges are established, one at Middlebury, the other at Burlington, in which are taught classical learning, and the higher branches of mathematics, philosophy, and other sciences.

MASSACHUSETTS.

Of the State of Learning.—In Massachusetts the principal institutions for science are the University of Cambridge, and the college at Williamstown. The university of Cambridge was founded in 1638—it is well endowed—is furnished with professors of the several sciences—a large library and apparatus—and contains usually from one hundred and forty to two hundred students. Williams college, in Williamstown, founded in 1793, is in a thriving state. Academies are established in various parts of the state, in which are taught the liberal sciences, as well as the languages. The laws of the state require a school to be kept in every town, having fifty householders, and a grammar school in every town having two hundred families. And although the laws are not rigidly obeyed, still most of the children in the state have access to a school.

MAINE—PART OF MASSACHUSETTS TILL 1822.

Of the State of Learning and Religion.—The laws of Massachusetts direct that a school shall be kept in each town, and lands are retained, as public lots, for the support of schools and the gospel ministry. These beneficial institutions are enjoyed in the old settlements; but a great part of the district, being lately settled, is not well supplied with schools.

RHODE ISLAND.

Of the State of Learning.—There is a college at Providence, founded by the Baptists, containing forty-eight rooms for students, and eight rooms for public uses. It has a library of near three thousand volumes—and an apparatus for experiments in philosophy. It is furnished with a president and suitable instructors for the students who are usually about fifty in number. In

the large towns, and in some others, there are private schools for teaching the common branches of learning.

CONNECTICUT.

Of the State of Learning.—Soon after the settlement of Connecticut, the General Court passed laws directing schools to be kept in every village, and providing funds to encourage them. Every town or village containing a certain number of families, was directed to maintain a school, and empowered to draw from the treasury of the state, a sum equal to one five-hundredth part of the amount of the property of the town, as assessed in the grand list. By means of this provision, common schools have been kept in all parts of the state, and every person is taught to read, write, and keep accounts. By the sale of the western reserve in 1795, still more liberal and permanent funds were provided for the support of schools. In winters the larger children are instructed by men; in summer, small children attend the schools, and are taught by women; in general the instructors are selected from persons of good families and reputation.

Of Yale College.—Yale College, so called, from a principal benefactor, was founded in the year 1700 at Killingworth, but fixed at New Haven in 1716. It consists of three colleges, each containing thirty-two rooms, a chapel and museum—has a library of about two thousand volumes, and a philosophical apparatus. Its funds are ample, and from thirty to fifty students are annually graduated at the public commencement in September. It is under the direction of trustees, consisting of eleven clergymen, and eight laymen. The vacancies among the clerical members are supplied by the board of trustees. The lay members are the governor, lieutenant-governor, and six senior members of the council of the state, or upper house.

Of Academies and Grammar Schools.—By law, a grammar school may be established in any town in the state, by a vote of the inhabitants in legal meeting; and many academies are established and maintained by private funds. In these are taught not only the primary branches of learning, but geography, grammar, the languages, and higher branches of mathematics. There are also academies for young ladies, in which are taught the additional branches of needle-work, drawing, and embroidery.

Among the academies of the first reputation are, one in Plainfield, and the Bacon academy in Colchester, whose funds amount to about thirty-five thousand dollars. The most distinguished schools for young ladies are, Union school in New Haven, and one in Litchfield.

NEW YORK.

Of the State of Learning.—A college was founded in the city of New York in 1754, and incorporated by charter from the king. After the revolution, the legislature instituted a university consisting of a number of regents, whose powers extend to the superintendence of colleges, academies and schools, throughout the state. They are authorized to found colleges and academies, confer degrees, visit all seminaries of learning, and make regulations for their government.

Of Columbia and Union Colleges.—By the act of the Legislature in 1787, founding the university of the state, the college in New York received the name of *Columbia*, and all the privileges and powers, derived from its charter, were confirmed. It is under the government of twenty-four trustees, and has considerable funds. Its instructors are a president and professors of the principal sciences. The building is of stone, three stories high, and containing forty-eight apartments. The college is furnished with a chapel, a library, museum, and philosophical apparatus. Union college was founded at Schenectady in 1795, and is in a prosperous condition.

Of Academies and Schools.—Several respectable academies are established in different parts of the state, in which are taught the learned languages, geography, grammar, and mathematics. Until since the revolution, common schools received no encouragement from the public treasury, or the laws. But in 1795, a law of the state appropriated a large sum of money for erecting school-houses, and paying teachers, the beneficial effects of which are visible. Hitherto, however, the rudimentary instruction of the laboring people has not been general.

NEW JERSEY.

Of the State of Learning.—The education of youth in New Jersey depends on the voluntary contributions of individuals, and therefore is neglected by some classes of the people. In the more populous towns and villages are academies and schools of high reputation. The college at Princeton, called Nassau Hall, is a seminary of distinguished

reputation, and from thirty to forty students are annually graduated.

PENNSYLVANIA.

Of the State of Learning.—In Pennsylvania is one university, the seat of which is Philadelphia; a college at Carlisle, and another at Lancaster. There are numerous academies and schools in Philadelphia and other large towns. The legislature have reserved sixty thousand acres of land as a fund for supporting public schools. The Moravian academies at Bethlehem and Nazareth, are noted for strict discipline.

DELAWARE.

Of the Schools.—There are private schools in this state, and especially in Wilmington. In 1796, the legislature passed an act for creating a fund for the support of public schools. There is no college in the state, but an academy at Newark, a few miles from Wilmington.

MARYLAND.

Of the Literary Institutions.—The principal institutions for the education of youth are, Washington academy, in Somerset county, instituted in 1779; Washington college at Chester, founded in 1782; St. Johns college at Annapolis, founded in 1784; a college at Georgetown, instituted by the Catholics; and Cokesbury college in Harford County, instituted by the methodists in 1785. There are private schools in many places; and private tutors in families; and many young men are sent for their education either to Europe, or the northern states.

VIRGINIA.

Seminaries of Learning.—The college in Williamsburg was founded during the reign of William and Mary, and called by their names. It was endowed by them with twenty thousand acres of land, and the proceeds of a duty of one penny on the pound of tobacco exported—with a duty on skins and furs exported, and liquors imported. It is under the government of twenty visitors, a president and professors in the most important branches of science. There is also a college in Prince Edward, and academies in the principal towns, as well as numerous schools in other parts of the state.

NORTH CAROLINA.

Of the State of Learning.—In 1789 the legislature passed an act incorporating a number of persons as trustees of a university to be established, and funds were supplied for the purpose of erecting buildings.

There is an academy of Warrenton, and a few others in the state; but the education of all classes of people is not general. In 1803, however, the legislature passed an act for the establishment of public schools.

SOUTH CAROLINA.

Of the Seminaries of Learning.—Gentlemen of property have been accustomed to send their sons and daughters to England for an education. Some of them send their sons to one of the colleges in the northern states. There are several institutions in the States called colleges and academies—a college in Charleston, one at Winnsborough, in Camden district, one at Cambridge, and one at Beaufort, with considerable funds. There are several academies and schools in Charleston, Beaufort, and other parts of the state. The *South Carolina College* was incorporated in 1801, with an appropriation of fifty thousand dollars for erecting buildings in Columbia, and six thousand dollars yearly for instructors.

GEORGIA.

Of the Literary Institutions.—The legislature of Georgia has founded and endowed a college at Louisville. There are also some schools in the state. A law of the state has incorporated a number of literary gentlemen, for the purpose of establishing and superintending seminaries of learning—fifty thousand acres of land are appropriated for funds, for this university—and a sum of money in each county for maintaining an academy. The funds destined by Mr. Whitfield to maintain an orphan house, and by him bequeathed to the countess of Huntingdon, in trust, are vested in commissioners to support a college.

KENTUCKY.

Of the State of Learning.—Provision has been made by law for founding and maintaining a college, and schools are established in different parts of the state.

TENNESSEE.

Of Learning.—Several schools are established in this state, and by law provision is made for three colleges. There is also a society for promoting useful knowledge.

Before entering on a systematic survey of the development of education in its different departments of elementary, secondary, superior, professional and supplementary instruction, we give in the following table the gradual growth of the country from 13 to 38 States, with their population in 1870.

TABLE I.—*Historical and statistical data of the United States.*

[Compiled from Report of the Commissioner of the Land Office for 1867.]

States and Territories.	Act organizing Territory.			Act admitting State.			Area in sq. miles.	Populat'n in 1860.†
	U. S. Statutes.	Vol.	Page.	U. S. Statutes.	Vol.	Page.		
<i>Original States.</i>								
New Hampshire.....	.....	.....	.....	.....	.....	.....	9,280	326,073
Massachusetts.....	.....	.....	.....	.....	.....	.....	7,800	1,231,066
Rhode Island.....	.....	.....	.....	.....	.....	.....	1,306	174,620
Connecticut.....	.....	.....	.....	.....	.....	.....	4,750	460,147
New York.....	.....	.....	.....	.....	.....	.....	47,030	3,880,735
New Jersey.....	.....	.....	.....	.....	.....	.....	8,320	672,035
Pennsylvania.....	.....	.....	.....	.....	.....	.....	46,000	2,906,115
Delaware.....	.....	.....	.....	.....	.....	.....	2,120	112,216
Maryland.....	.....	.....	.....	.....	.....	.....	11,124	687,049
Virginia—East and West.....	.....	.....	.....	.....	.....	.....	61,352	1,596,318
North Carolina.....	.....	.....	.....	.....	.....	.....	50,704	992,622
South Carolina.....	.....	.....	.....	.....	.....	.....	34,000	703,708
Georgia.....	.....	.....	.....	.....	.....	.....	58,000	1,057,286
<i>States admitted.</i>								
Kentucky.....	.....	.....	.....	Feb. 4, 1791	1	189	37,680	1,155,684
Vermont.....	.....	.....	.....	Feb. 18, 1791	1	191	*10,212	315,098
Tennessee.....	.....	.....	.....	June 1, 1796	1	491	45,600	1,109,801
Ohio.....	Ord'ce of 1787	.....	.....	Apr. 30, 1802	2	173	39,964	2,339,502
Louisiana.....	Mar. 3, 1805	2	331	Apr. 8, 1812	2	701	*41,346	708,002
Indiana.....	May 7, 1800	2	58	Dec. 11, 1814	3	399	33,839	1,350,428
Mississippi.....	Apr. 7, 1798	1	549	Dec. 10, 1817	3	672	47,156	791,305
Illinois.....	Feb. 3, 1809	2	514	Dec. 3, 1818	3	536	*55,410	1,711,951
Alabama.....	Mar. 3, 1817	3	371	Dec. 14, 1819	3	608	50,722	964,201
Maine.....	.....	.....	.....	Mar. 3, 1820	3	544	*35,000	628,279
Missouri.....	June 4, 1812	2	743	Mar. 2, 1821	3	645	*65,350	1,182,012
Arkansas.....	Mar. 2, 1819	3	493	June 15, 1836	5	50	52,198	435,450
Michigan.....	Jan. 11, 1805	2	309	Jan. 26, 1837	5	144	*56,451	749,113
Florida.....	Mar. 30, 1822	3	654	Mar. 3, 1845	5	742	59,268	140,425
Iowa.....	June 12, 1838	5	235	do.....	5	742	55,045	674,948
Texas.....	.....	.....	.....	Dec. 29, 1845	9	108	*274,356	604,215
Wisconsin.....	Apr. 20, 1836	5	10	Mar. 3, 1847	9	178	53,924	775,881
California.....	.....	.....	.....	Sept. 9, 1850	9	452	*188,981	305,439
Minnesota.....	Mar. 3, 1849	9	403	Feb. 26, 1857	11	166	83,531	173,855
Oregon.....	Aug. 14, 1848	9	323	Feb. 14, 1859	11	383	95,274	52,465
Kansas.....	May 30, 1854	10	277	Jan. 29, 1861	12	126	81,318	107,206
West Virginia.....	.....	.....	.....	Dec. 31, 1862	12	633	23,000	.....
Nevada.....	Mar. 2, 1861	12	209	Mar. 21, 1864	13	30	112,090	16,857
Colorado.....	Feb. 28, 1861	12	172	.....	13	32	*104,500	134,277
Nebraska.....	May 30, 1854	10	277	Mar. 1, 1867	13	47	75,995	28,841
<i>Territories.</i>								
New Mexico.....	Sept. 9, 1850	9	446	.....	.....	.....	121,201	} \$360,000
Utah.....	do.....	9	453	.....	.....	.....	88,056	
Washington.....	Mar. 2, 1853	10	172	.....	.....	.....	69,994	
Dakota.....	Mar. 2, 1861	12	239	.....	.....	.....	240,597	
Arizona.....	Feb. 24, 1863	12	664	.....	.....	.....	113,916	
Idaho.....	Mar. 3, 1863	12	808	.....	.....	.....	90,932	
Montana.....	May 26, 1864	13	85	.....	.....	.....	143,776	} \$126,990
Indian Territory.....	.....	.....	.....	.....	.....	.....	68,991	
Dist. of Columbia.....	July 16, 1790	1	130	} .....	.....	.....	||10 m. sq.	
	Mar. 3, 1791	1	214					
Russian purchase.....	.....	.....	.....	.....	.....	.....	577,390	70,000

* Area taken from geographical authorities and not from public surveys.

† Total population in 1860 was 31,500,000; estimated in 1867 to be 38,500,000.

‡ To the white population in Nevada should be added 10,507 Indians; and in Colorado, 2,261 Indians.

§ As estimated January 1, 1865.

|| That portion of District of Columbia south of the Potomac river was retroceded to Virginia July 9, 1846, (Stat. vol. 6, p. 35.)

¶ By census of 1867.

II. SCHOOL-HOUSES, STUDIES, BOOKS, AND TEACHERS AS THEY WERE.

To understand the real progress which has been made in the organization, administration, and instruction of institutions of learning in this country, and at the same time to appreciate the importance of many agencies and means of popular education besides schools, books and teachers, we must, as far as we can, look into the schools themselves, as they were fifty and sixty years ago, and realize the circumstances under which some of the noblest characters of our history have been developed. As a contribution to our knowledge of the early history of education in the United States, we bring together the testimony of several eminent men who were pupils or teachers in these schools, and who assisted in various ways in achieving their improvement.

LETTER FROM NOAH WEBSTER, LL.D.

"NEW HAVEN, March 10th, 1840.

"MR. BARNARD: *Dear Sir*—You desire me to give you some information as to the mode of instruction in common schools when I was young, or before the Revolution. I believe you to be better acquainted with the methods of managing common schools, at the present time, than I am; and I am not able to institute a very exact comparison between the old modes and the present. From what I know of the present schools in the country, I believe the principal difference between the schools of former times and at present consists in the books and instruments used in the modern schools.

"When I was young, the books used were chiefly or wholly Dilworth's Spelling Books, the Psalter, Testament and Bible. No geography was studied before the publication of Dr. Morse's small books on that subject, about the year 1786 or 1787. No history was read, as far as my knowledge extends, for there was no abridged history of the United States. Except the books above mentioned, no book for reading was used before the publication of the Third Part of my Institute, in 1785. In some of the early editions of that book, I introduced short notices of the geography and history of the United States, and these led to more enlarged descriptions of the country. In 1788, at the request of Dr. Morse, I wrote an ac-

count of the transactions in the United States, after the Revolution; which account fills nearly twenty pages in the first volume of his octavo editions.

"Before the Revolution, and for some years after, no slates were used in common schools; all writing and the operations in arithmetic were on paper. The teacher wrote the copies and gave the sums in arithmetic; few or none of the pupils having any books as a guide. Such was the condition of the schools in which I received my early education.

"The introduction of my Spelling Book, first published in 1783, produced a great change in the department of spelling; and from the information I can gain, spelling was taught with more care and accuracy for twenty years or more after that period, than it has been since the introduction of multiplied books and studies.*

"No English grammar was generally taught in common schools when I was young, except that in Dilworth, and that to no good purpose. In short, the instruction in schools was very imperfect, in every branch; and if I am not misinformed, it is so to this day, in many branches. Indeed there is danger of running from one extreme to another, and instead of having too few books in our schools, we shall have too many.

"I am, sir, with much respect, your friend and obedient servant, N. WEBSTER."

Dr. Webster, in an essay published in a New York paper in 1788, "On the Education of Youth in America," and in another essay published in Hartford, Ct., in 1790, "On Property, Government, Education, Religion, Agriculture, etc., in the United States,"† while setting forth some of the cardinal doctrines of American education as now held, throws light on the condition of schools and colleges in different parts of the country at that date.

"The first error that I would mention is a

* "The general use of my Spelling Book in the United States has had a most extensive effect in correcting the pronunciation of words, and giving uniformity to the language. Of this change, the present generation can have a very imperfect idea."

† These essays were afterwards collected with others in a volume entitled "A Collection of Essays and Fugitive Writings, etc." By Noah Webster, Jr. Boston: 1790.

too general attention to the dead languages, with a neglect of our own. . . . This neglect is so general that there is scarcely an institution to be found in the country where the English tongue is taught regularly from its elements to its pure and regular construction in prose and verse. Perhaps in most schools boys are taught the definition of the parts of speech, and a few hard names which they do not understand, and which the teacher seldom attempts to explain; this is called learning grammar. . . . The principles of any science afford pleasure to the student who comprehends them. In order to render the study of language agreeable, the distinctions between words should be illustrated by the difference in visible objects. Examples should be presented to the senses which are the inlets of all our knowledge.

"Another error which is frequent in America, is that a master undertakes to teach many different branches in the same school. In new settlements, where the people are poor, and live in scattered situations, the practice is often unavoidable. But in populous towns it must be considered as a defective plan of education. For suppose the teacher to be equally master of all the branches which he attempts to teach, which seldom happens, yet his attention must be distracted with a multiplicity of objects, and consequently painful to himself, and not useful to his pupils. Add to this the continual interruptions which the students of one branch suffer from those of another, which must retard the progress of the whole school. It is a much more eligible plan to appropriate an apartment to each branch of education, with a teacher who makes that branch his sole employment. . . . Indeed what is now called a liberal education disqualifies a man for business. Habits are formed in youth and by practice; and as business is in some measure mechanical, every person should be exercised in his employment in an early period of life, that his habits may be formed by the time his apprenticeship expires. An education in a university interferes with the forming of these habits, and perhaps forms opposite habits; the mind may contract a fondness for ease, for pleasure, or for books, which no efforts can overcome. An academic education, which should furnish the youth with some ideas of men and things, and leave time for an apprenticeship before the age of twenty-one years,

would be the most eligible for young men who are designed for active employments.

* * * * *

"But the principal defect in our plan of education in America is the want of good teachers in the academies and common schools. By good teachers I mean men of unblemished reputation, and possessed of abilities competent to their station. That a man should be master of what he undertakes to teach is a point that will not be disputed; and yet it is certain that abilities are often dispensed with, either through inattention or fear of expense. To those who employ ignorant men to instruct their children, let me say, it is better for youth to have no education than to have a bad one; for it is more difficult to eradicate habits than to impress new ideas. The tender shrub is easily bent to any figure; but the tree which has acquired its full growth resists all impressions. Yet abilities are not the sole requisites. The instructors of youth ought, of all men, to be the most prudent, accomplished, agreeable, and respectable. What avail a man's parts, if, while he is 'the wisest and brightest,' he is the 'meanest of mankind?' The pernicious effects of bad example on the minds of youth will probably be acknowledged; but, with a view to improvement, it is indispensably necessary that the teachers should possess good breeding and agreeable manners. In order to give full effect to instructions it is requisite that they should proceed from a man who is loved and respected. But a low-bred clown or morose tyrant can command neither love nor respect; and that pupil who has no motive for application to books but the fear of the rod, will not make a scholar."

LETTER FROM REV. HEMAN HUMPHREY, D.D.

"PITTSFIELD, Dec. 12th, 1860.

"HON. HENRY BARNARD: *Dear Sir*—I am glad to hear from you, still engaged in the educational cause, and that you are intending to 'give a picturesque survey of the progress of our common schools, their equipment, studies and character.' If my early recollections and experience will give you any little aid, I shall esteem myself happy in affording it.

"The first school I remember was kept a few weeks by a maiden lady, called Miss Faithy, in a barn. I was very young, as were most of the children. What I learned

then, if any thing, I have forgotten. This was in the summer, of course. The next was a school, so called, kept a month or two by a neighbor of ours, who was the best *trout fisher*, with his horse-hair line, in all those parts. He wrote a fair hand, as I remember, on birch bark. What he taught us, but to say *tue* and *due*, has escaped my recollection. We had no school-house then in our district, and we met as much for play as any thing, where we could find shelter. The next winter, another neighbor took us a few weeks into one of the rooms of his own house, where every thing but learning was going on. His speech bewrayed him of Rhode Island origin, and whatever he knew, he certainly could never have had much if any chance of being whipped in school when he was a boy. I remember his tremendous *stamp* when we got noisy in school-time, and that is all. This, however, is not a fair sample of school accommodations in my boyhood; and I had a better chance for two or three winters afterward.

"SCHOOL HOUSES.—Most of the other districts in the town had school-houses, but not all. The first winter that I kept school myself, was in a room next to the kitchen in a small private house. Some of the school-houses were better than others; but none of them in that or the adjoining towns were convenient or even comfortable. They were rather *juvenile penitentiaries*, than attractive accommodations for study. They were too small, and low from the ceiling to the floor, and the calculation of the builders seemed to have been, to decide into how small a space the children could be crowded, from the fire-place till the room was well packed. Not unfrequently sixty or seventy scholars were daily shut up six hours, where there was hardly room for thirty. The school-houses were square, with a very narrow entry, and a large fire-place on the side near the door. There were no stoves then. They were generally roughly clapboarded, but never painted. They had writing-desks, or rather, long boards for writing, on two or three sides, next to the wall. The benches were all loose; some of them boards, with slabs from the saw-mill, standing on four legs, two at each end. Some were a little lower than the rest, but many of the smaller children had to sit all day with their legs dangling between the bench and the floor. Poor little things! nodding and trying to keep their balance on the slabs, without any

backs to lean against, how I pity them to this day. In the coldest weather, it was hard to tell which was the most difficult, to keep from roasting or freezing. For those nearest to the fire it was sweltering hot, while the ink was freezing in the pens on the back side of the room. 'Master, I am too hot'—'Master, may I go to the fire?' That was the style of address in those days, and we did our best to be *masters*, anyhow.

"All the school-houses that I remember stood close by the travelled road, without any play-grounds or enclosures whatever. If there were any shade trees planted, or left of spontaneous growth, I have forgotten them. And in most cases, there were no outside accommodations, even the most necessary for a moment's occasion. I now marvel at it, but so it was. In that respect, certainly, the days of the children are better than the days of their fathers were.

"For the most part, the winter schools were miserably supplied with wood. I kept school myself in three towns, and in but one of the schools was there any wood-shed whatever; and no wood was got up and seasoned in summer against winter. Most of what we used was standing in the forests when the school began, and was cut and brought sled length by the farmers in proportion to the number of scholars which they sent. Not exactly that, either; for sometimes, when we went to the school-house in a cold morning, there was *no wood* there. Somebody had neglected to bring his load, and we were obliged to adjourn over to the next day. In many cases, the understanding was, that the larger boys must cut the wood as it was wanted. It always lay in the snow, and sometimes the boys were sent to dig it out in school-time, and bring it in, all wet and green as it was, to keep us from freezing. That was the fuel to make fires with in the morning, when the thermometer was below zero, and how the little children cried with the cold, when they came almost frozen, and found no fire burning; nothing but one or two boys blowing and keeping themselves warm as well as they could, by exercise, in trying to kindle it. Such were our school-houses and their disaccommodations.

"BRANCHES TAUGHT IN THE SCHOOLS.—They were reading, spelling, and writing, besides the A B C's to children scarcely four years old, who ought to have been at home with their mothers. They were called up

twice a day by the master pointing with his penknife 'What's that?' 'A.' 'What's that?' 'D.' 'No, it's B.' 'What's that?' 'N.' 'No, you careless boy, it's C;' and so down to *ezand*. 'Go to your seat, you will never learn your lesson in the world, at this rate.' Our school-books were the Bible, 'Webster's Spelling Book,' and 'Third Part,' mainly. One or two others were found in some schools for the reading classes. Grammar was hardly taught at all in any of them, and that little was confined almost entirely to committing and reciting the rules. Parsing was one of the occult sciences in my day. We had some few lessons in geography, by questions and answers, but no maps, no globes; and as for *black-boards*, such a thing was never thought of till long after. Children's reading and picture books, we had none; the fables in Webster's Spelling Book came nearest to it. Arithmetic was hardly taught at all in the day schools. As a substitute, there were some evening schools in most of the districts. Spelling was one of the leading daily exercises in all the classes, and it was better, a good deal, I think, than it is now.

"The winter schools were commonly kept about three months; in some favored districts *four*, but rarely as long. As none of what are now called the higher branches were taught beyond the merest elements, parents generally thought that three or four months was enough. There were no winter *select* schools for the young above the age of sixteen or seventeen, as I remember, till after I retired from the profession, such as it then was. There may have been here and there an academy, in some parts of the state; but not one within the range of my acquaintance.

"OUR SPRING EXHIBITIONS.—At the close of the winter schools we had what we used to call our *Quarter-days*, when the schools came together in the meeting-house, with a large congregation of parents and friends. The public exercises were reading, spelling, and speaking single pieces, and dialogues. Some of the dialogues we wrote ourselves, for our own schools. Most of them were certainly very flat; but they brought down the house, and answered the purpose as well as any we could pick up. We thought then, as I think now, that those quarter-days were of great advantage to the schools. The anticipation of them kept up an interest all winter, and stimulated both teachers and

scholars to do their best in the way of preparation. As the time approached, we had evening schools for reading and rehearsing the dialogues, so as to be sure not to fall behind in the exhibitions. None of our college commencements are now looked forward to with greater interest than were those vernal anniversaries.

"Another thing that helped us a good deal was the occasional afternoon visits of the parents and other friends of the schools. They came in by invitation, or whenever they chose, and their visits always did us good.

"Still another practice we found to be quite stimulating and useful. We had a mutual understanding that, without giving any notice, any teacher might dismiss his own school for an afternoon, and, taking along with him some of the older boys, call in to see how his brother teacher got along in the next or some other district. The arrangement worked well. We made speeches, complimented one another as politely as circumstances would allow, and went home resolved not to fall behind the best of them.

"In the school, we made up our minds to be masters, in *fact* as well as in name. Though of late years I have not had very good advantages for making the comparison, I believe the schools were quite as well governed sixty years ago as they are now. Among other things which we did to maintain our authority, was to go out now and then and have a snowball skirmish with the boys, and though we commonly got beat, nothing we could do was more effectual.

"*Corporal* punishments, I believe, were sparingly resorted to in most of our schools. Though I myself believed in Solomon fully, I never flogged but one scholar in my life, though I shook the mischief out of a great many. I think Sam was of the opinion, in the premises, that the rod was laid on rather smartly, for I understood he promised, some day, to pay me in kind, which, however, I suppose he never found it quite convenient to undertake.

"We schoolmasters within convenient distances used to meet in the winter evenings for mutual improvement, which, to own the truth, we needed a good deal. Our regular exercises were reading for criticisms, reporting how we were getting along, and conversing upon the best method of managing our schools. This was very profitable, as we thought, to us all.

"In those ancient times, it was an almost universal custom in the rural towns of Connecticut, for the teachers to *board round*, and upon the whole I liked it. It was a good school for us. By going into all the families we learned a great deal. We were looked upon as having more in our heads than we could fairly claim, and they always kept us on the best they had. It is true, the cooking was not always the best, nor sheets always so clean as to guard against infection; and if, perchance, it sometimes broke out, we knew how to cure it.

"Our wages were generally screwed down to the lowest notch by the school committees, under the instruction of the districts. For my first campaign I received *seven* dollars a month and board; for the next, *nine*; for the third, *ten*; and I think I never went above thirteen till quite the last of my teaching before I went to college. As I had some reputation in that line, I suppose I was as well paid as my brethren.

"With regard to the summer schools of that period, I have very little to say. They were kept by females upon very low wages, about as much a week as they could earn in families by spinning or weaving. They took good care of the little children, and taught them as well as they could.

"As we had no grammar schools in which the languages were taught, we most of us fitted for college with our ministers, who, though not very fresh from their classics, did what they could to help us.

"Finally, you ask me whether there were any schools for young ladies in those old times? There may possibly have been in two or three of the largest towns, but the only one of which I had any knowledge was in Litchfield, kept by Miss Pierce, and I am not quite sure that her school was established as early as your question contemplates.

"These, dear sir, are some of my old remembrances, which you may make such use of as you please.

"Respectfully yours,

"H. HUMPHREY."

LETTER FROM HON. JOSEPH T. BUCKINGHAM.

"CAMBRIDGE, Dec. 10th, 1860.

"HENRY BARNARD, ESQ.: *My Dear Sir*—I cheerfully comply with your request to give you some account of the schools and the educational books that were in use about

the close of the last century. I never had the privilege of attending any higher institution of learning than the common district schools of Connecticut, in the town of Windham; but I have no doubt that those of that town were a fair type of many others, probably most of them, except such as were kept in the larger towns or thickly populated villages.

"According to the best of my remembrance, my school-days began in the spring of 1783. The school to which I was admitted was kept by a lady, and, like most of the district schools, was kept only for the younger pupils, and was open for two months during the summer season. The upper class in the school was formed entirely of females—such as could read in the Bible. The lower classes read in spelling books and the New England Primer. The spelling books, of which there were not, probably, more than three or four in the school, I believe were all by Dilworth, and were much worn and defaced, having been a sort of heir-loom in the families of the pupils. The teacher of this school was the daughter of the minister of the parish. She kept a rod hanging on the wall behind her chair and a ferule on the table by her side; but I do not recollect that she used either of them. The girls who constituted the first class were required, every Monday morning, to repeat the text or texts of the preceding day's discourse, stating the book, chapter, and verse whence it was taken. The next summer, 1784, the same lady, or one of her sisters, kept school in the same district. The same books were in use, and there was the same routine of exercises. It was kept on the first floor of the steeple. The lower end of the bell-rope lay in a coil in the centre of the floor. The discipline was so strict, that no one, however mischievously disposed, I believe ever thought of taking hold of it, though it was something of an incumbrance. I was then four years and a half old, and had learned *by heart* nearly all the reading lessons in the Primer, and much of the Westminster Catechism, which was taught as the closing exercise every Saturday. But justice to one of the best of mothers requires that I should say that much the greater part of the improvement I had made was acquired from her careful instruction.

"In December, 1784, the month in which I was five years old, I attended, for a few days, the school kept by a master—I do not remember his name. When asked up for

examination, he asked me if I could read without spelling? I said I could read in the Bible. He hesitated a moment, and then placed me on one of the benches, opened a Bible at the fifth chapter of Acts, and asked me to read. I read ten or a dozen verses—being the account of Ananias and his wife falling dead before Peter for telling a lie. Whether he had any suspicion that I had told a falsehood, and took this method to reprove me, I know not; but he dismissed me with approbation. He used his ferule on the hands of some of the elder boys; but the severest punishment that he inflicted for any violation of order, was compelling a boy who had brought into the school the breast-bone of a chicken, (commonly called the *wishing-bone*,) and with which he had excited some noise among the pupils, to stand on one of the benches and wear the bone on his nose till the school was dismissed. I am strongly impressed with the belief that Webster's spelling book made its first appearance in the schools during this winter. The following summer I attended, but very irregularly, a school kept as before in the steeple of the meeting-house,* and had a copy of Webster. Whether there were any other copies in the school or not I am not able to say. The next two winters, circumstances which I have no desire to recall, and which you would not care to be acquainted with, prevented my attending any school. In the summer of 1786, these same circumstances caused me to be removed to another district three miles distant from the central village. The farmer with whom I lived thought I could read well enough, and as the district school-house was a mile or more distant, he considered it unnecessary to send me that distance in the winter, merely to read; and consequently for two or three winters I went to school not more than eight or ten days in each. At length, in 1790 or 1791, it was thought I was old enough to learn to *cipher*, and accordingly was permitted to go to school more constantly. I told the master I wanted to learn to cipher. He set me a *sum* in simple addition—*five columns* of figures, and *six figures* in each column. All the instruction he gave me was—add the figures in the first column, carry one for every ten, and set the overplus down under the column. I supposed he meant by the *first* column the left hand

column; but what he meant by carrying one for every ten was as much a mystery as Samson's riddle was to the Philistines. I worried my brains an hour or two, and showed the master the figures I had made. You may judge what the amount was, when the columns were added from left to right. The master frowned and repeated his former instruction—add up the column *on the right*, carry one for every ten, and set down the remainder. Two or three afternoons (I did not go to school in the morning) were spent in this way, when I begged to be excused from learning to cipher, and the old gentleman with whom I lived thought it was time wasted; and if I attended the school any further at that time, reading and spelling, and a little writing were all that was taught. The next winter there was a teacher more communicative and better fitted for his place, and under him some progress was made in arithmetic, and I made a tolerable acquisition in the first four rules, according to Dilworth's Schoolmaster's Assistant, of which the teacher and one of the eldest boys had each a copy. The two following winters, 1794 and 1795, I mastered all the rules and examples in the first part of Dilworth; that is, through the various chapters of Rule of Three, Practice, Fellowship, Interest, etc. etc., to Geometrical Progression and Permutation.

"In our district, the books were of rather a miscellaneous character, such as had been in families perhaps half a century or more. My belief is that Webster's Spelling Book was not in general use before 1790 or 1791. The Bible was read by the first class in the morning, always, and generally in the afternoon before the closing exercise, which was always a lesson in spelling, and this was performed by all the pupils who were sufficiently advanced to pronounce distinctly words of more than one syllable. It was the custom for all such pupils to stand together as one class, and with *one voice* to read a column or two of the tables for spelling. The master gave the signal to begin, and all united to read, letter by letter, pronouncing each syllable by itself, and adding it to the preceding one till the word was complete. Thus, a-d *ad*, m-i *mi*, *admi*, r-a *ra*, *admi-ra*, t-i-o-n *shun*, *admiration*. This mode of reading was exceedingly exciting, and, in my humble judgment, exceedingly useful; as it required and taught deliberate and distinct articulation, and inspired the youngest with a desire

* This was the last time I went to a *summer* school.

to equal the older ones. It is true the voices would not all be in perfect unison; but after a little practice they began to assimilate. I have heard a class of thirty or more read column after column in this manner, with scarcely a perceptible variation from the proper pitch of voice. When the lesson had been thus read, the books were closed, and the words given out for spelling. If one was misspelt, it passed on to the next, and the next pupil in order, and so on till it was spelt correctly. Then the pupil who had spelt correctly went up in the class *above* the one who had misspelt. It was also a practice, when one was absent from this exercise in spelling, that he should stand at the foot of the class when he returned. Another of our customs was to choose sides to spell once or twice a week. The words to be spelt went from side to side; and at the conclusion, the side which *beat* (spelt the most words) were permitted to leave the schoolroom, preceding the other side, who had to sweep the room and build the fires the next morning. These customs prevalent sixty and seventy years ago excited emulation, and emulation produced improvement. A revival of them, I have no doubt, would be advantageous in the common schools, especially where pupils are required to spell words given out indiscriminately from a reading book or dictionary. There was not, to my knowledge, any *reading book* proper, except the Bible, till Webster's Third Book, so called, came out about 1793 or 1794. A new edition of his spelling book furnished some new matter for reading—selections from the New Testament, a chapter of Proverbs, and a set of Tables, etc.; but none of these operated to the exclusion of the Bible.

"In the family in which I lived there were three or four old spelling books, which I presume had been used in schools before the period of my remembrance. One of these was a book of less than a hundred pages, printed in London, I think in 1690. The words were arranged in tables according to syllables. The terminations *tion, sion, cial, tial, etc.*, were all divided and printed as two distinct syllables. (And I believe this mode of printing is still continued in England. It was in the time of Lindley Murray, as may be seen in his spelling book, printed about forty years ago.) This spelling book contained a numeration table which, from a singular feature, early attracted my attention.

Every figure was 9, and the whole formed a curious triangle. Thus:

9
99
999 and so on to
the last, 999,999,999

"Another spelling book in our farmer's library was by Daniel Fenning, printed in London. It contained a short treatise on grammar, on which I sometimes exercised my memory, but understood not one of its principles. We had also a Dilworth, containing certain fables—such as Jupiter and the Frogs, the Romish Priest and the Jester, Hercules and the Wagoner, etc., etc. Another still we had, the author of which I never knew, as several pages had been lost from the beginning. It had a page of proverbs, one of which—'a cat may look upon a king'—occasioned me much thoughtful exercise. It also had an appropriate collection of couplets for writing-copies, of which the only one I recollect was this:

"X things a penman should have near at hand—
Paper, pounce, pen, ink, knife, hone, rule, plummet, wax, sand."

But that which rendered the book so memorable as never to be forgotten, was the astonishing, if not terrific, word of fourteen syllables—'Ho-no-ri-fi-ca-bi-li-tu-di-ni-tu-ti-bus-que'—asserted to be the longest word in the English language.

"In the winter of 1793-4, we had for a teacher ERASTUS RIPLEY, who was an under-graduate of Yale College. I mention his name, because I cannot look back upon the time when I had the advantage of his instruction without a feeling of reverence for the man and respect for the teacher. I learned more from him than all the schoolmasters I had been under. He took more pains to instruct us in reading than all his predecessors within my knowledge. He opened the school every morning with prayer—which had not been practised in our district. He was preparing for the ministry, and was afterwards settled at Canterbury, I think. He was highly esteemed by all the people of the district, and gave such an *impetus* to the ambition of the pupils, that a subscription was made to employ him an extra month after the usual term of the school had expired.

"Mr. Ripley was succeeded in the winter of 1794-5 by a young man from Lebanon by the name of Tisdale, under whom my

school days were finished; and here I may bring this long and, I fear, very uninteresting letter to a close. Hoping this may serve the purpose for which you suggested the writing of it, and wishing you all the success you can desire in the noble cause in which you are engaged,

"I am, very respectfully

"And truly yours,

"JOSEPH T. BUCKINGHAM."

LETTER FROM REV. ELIPHALET NOTT, D.D.,
DATED JAN., 1861.

"When I was a boy, seventy-five or eighty years ago, in good old Puritan Connecticut, it was *felt* as a practical maxim 'that to spare the rod was to spoil the child;' and on this maxim the pedagogue acted in the school-room, and applied it for every offence, real or imaginary; and for having been whipped at school by the relentless master, the unfortunate tyro was often whipped at home by his no less relentless father; so that between the two relentless executors of justice among the Puritan fathers, few children, I believe, were spoiled by the withholding of this orthodox discipline. For myself, I can say (and I do not think I was wayward beyond the average of district school-boys) that, in addition to warnings, and admonitions daily, if I was not whipped more than three times a week, I considered myself for the time peculiarly fortunate.

"Being of a contemplative and forbearing disposition, this discipline of the rod became peculiarly irksome to me, and, as I thought, unjustifiable; and I formed a resolution, if I lived to be a man, I would not be like other men in regard to their treatment of children.

"Through the mercy of God I did live to be a man, and when at the age of eighteen I became installed as master of a district school in the eastern part of Franklin, Connecticut—a school where rebellious spirits had previously asserted their rights, and been subdued or driven from the school by the use of the rod—nothing daunted, I made up my mind to substitute in my school moral motives in the place of the rod; and I frankly told my assembled pupils so, and that if they would have the generosity to second my efforts, they would secure to themselves and furnish me and their parents the happiness which is the heaven-appointed reward of well-doing.

"The school responded to my appeal, and

thereafter, though we played and gambolled together as equals in play-hours, and on Saturday afternoons, which were also devoted to play, the moment we entered the school-room, a subordination and application to study was observable, that became matter of remark and admiration among the inhabitants of the district, the fame of which success extended to other districts, and even to adjoining towns, so that the examination and exhibition with which the school closed the ensuing spring, called together clergymen and other officials from places quite remote.

"This success brought me to the knowledge of the trustees of the Plainfield Academy, one of the most important, if not at the time the most important academy in the state, and I was by a unanimous vote appointed principal of said academy—an institution in which several hundred children of both sexes were in the same building successfully taught and governed, for years, without the use of the rod, it being at that time the prevailing usage, both in district schools and academies, for the two sexes to be taught in the same room, and subjected to the same form of government.

"This successful experiment in the use of moral suasion, and other kindred and kindly influences, in place of the rod, led to other and kindred experiments, until, whether for the better or the worse, the rod at length came to occupy a very subordinate place in the system of school education.

"In those days, education in common schools was not so diffusive as at the present day; but quite as thorough, if not more so. The same remark may be applied to the higher schools or academies—the whole field of natural science being at that time, for the most part, unexplored; but mathematics and classics were zealously taught. In evidence of this, though inferior in attainments to some of my classmates, I published successfully myself an almanac when about twenty-one years of age.

"As the rod in those days was the principal instrument in common school education, so when I was afterward called to Union College, fines, suspensions, and expulsions were the principal instruments of collegiate government. The faculty sat in their robes as a court, caused offenders to be brought before them, examined witnesses, heard defences, and pronounced sentences with the solemnity of other courts of justice; and though Union College had on its cata-

logue but a very diminutive number of students, the sitting of the faculty as a court occupied no inconsiderable part of the time of its president and professors.

"Soon after I became connected with the college as its president, a case of discipline occurred which led to the trial and issued in the expulsion of a student belonging to a very respectable family in the city of Albany. According to the charter of Union College, the sentence of the faculty is not final. An appeal can be taken to the board of trustees, and in the case in question an appeal was taken, and, after keeping college in confusion for months, by the different hearings of the case, the board reversed the decision of the faculty, and restored the young man. On the event of this restoration, I informed them that they should never, during my administration, have occasion to review another case of discipline by the faculty; and during the fifty-six years which have since passed away, I have kept my word; and though we have been less successful in our system of parental government than could be wished, we have had no rebellions, and it is conceded, I believe generally, that quite as large a proportion of our young men have succeeded in after life as of any other collegiate institution in the Union."

RECOLLECTIONS OF PETER PARLEY.

The following picture of the District School as it was a few years later, in the town of Ridgefield,* one of the most advanced agricultural communities of Connec-

* "Nearly all the inhabitants of Ridgefield were farmers, with the few mechanics that were necessary to carry on society in a somewhat primeval state. Even the persons not professionally devoted to agriculture, had each his farm, or at least his garden and home lot, with his pigs, poultry, and cattle. The population might have been 1200, comprising 200 families. All could read and write, but in point of fact, beyond the Almanac and Watts' Psalms and Hymns, their literary acquirements had little scope. There were, I think, four newspapers, all weekly, published in the state: one at Hartford, one at New London, one at New Haven, and one at Litchfield. There were, however, not more than three subscribers to all these in our village. We had, however, a public library of some 200 volumes, and what was of equal consequence—the town was on the road which was then the great thoroughfare, connecting Boston with New York, and hence it had means of intelligence from travellers constantly passing through the place, which kept it up with the march of events."

ticut, is from the pen of Peter Parley, in his "*Recollections of a Lifetime*."

"About three fourths of a mile from my father's house, on the winding road to Lower Salem, which bore the name of West Lane, was the school-house where I took my first lessons, and received the foundations of my very slender education. I have since been sometimes asked where I graduated: my reply has always been, 'At West Lane.' Generally speaking, this has ended the inquiry, whether because my interlocutors have confounded this venerable institution with 'Lane Seminary,' or have not thought it worth while to risk an exposure of their ignorance as to the college in which I was educated, I am unable to say.

"The site of the school-house was a triangular piece of land, measuring perhaps a rood in extent, and lying, according to the custom of those days, at the meeting of four roads. The ground hereabouts—as everywhere else in Ridgefield—was exceedingly stony, and in making the pathway the stones had been thrown out right and left, and there remained in heaps on either side, from generation to generation. All round was bleak and desolate. Loose, squat stone walls, with innumerable breaches, inclosed adjacent fields. A few tufts of elder, with here and there a patch of briars and poke-weed, flourished in the gravelly soil. Not a tree, however, remained, save an aged chestnut, at the western angle of the space. This certainly had not been spared for shade or ornament, but probably because it would have cost too much labor to cut it down, for it was of ample girth. At all events it was the oasis in our desert during summer; and in autumn, as the burrs disclosed its fruit, it resembled a besieged city. The boys, like so many catapults, hurled at it stones and sticks, until every nut had capitulated.

"Two houses only were at hand: one, surrounded by an ample barn, a teeming orchard, and an enormous wood-pile, belonged to Granther Baldwin; the other was the property of 'Old Chich-es-ter,' an uncouth, unsocial being, whom everybody for some reason or other seemed to despise and shun. His house was of stone and of one story. He had a cow, which every year had a calf. He had a wife—filthy, uncombed, and vaguely reported to have been brought from the old country. This is about the whole history of the man, so far as it is written in the authentic traditions of the parish. His

premises, an acre in extent, consisted of a tongue of land between two of the converging roads. No boy, that I ever heard of, ventured to cast a stone or to make an incursion into this territory, though it lay close to the school-house. I have often, in passing, peeped timidly over the walls, and caught glimpses of a stout man with a drab coat, drab breeches, and drab gaiters, glazed with ancient grease and long abrasion, prowling about the house; but never did I discover him outside of his own dominion. I know it was darkly intimated that he had been a tory, and was tarred and feathered in the revolutionary war, but as to the rest he was a perfect myth. Granther Baldwin was a character no less marked, but I must reserve his picture for a subsequent letter.

"The school-house itself consisted of rough, unpainted clapboards, upon a wooden frame. It was plastered within, and contained two apartments—a little entry, taken out of a corner for a wardrobe, and the school-room proper. The chimney was of stone, and pointed with mortar, which, by the way, had been dug into a honeycomb by uneasy and enterprising penknives. The fireplace was six feet wide and four feet deep. The flue was so ample and so perpendicular, that the rain, sleet, and snow fell direct to the hearth. In winter, the battle for life with green fizzling fuel, which was brought in sled lengths and cut up by the scholars, was a stern one. Not unfrequently, the wood, gushing with sap as it was, chanced to be out, and as there was no living without fire, the thermometer being ten or twenty degrees below zero, the school was dismissed, whereat all the scholars rejoiced aloud, not having the fear of the schoolmaster before their eyes.

"It was the custom at this place to have a woman's school in the summer months, and this was attended only by young children. It was, in fact, what we now call a primary or infant school. In winter, a man was employed as teacher, and then the girls and boys of the neighborhood, up to the age of eighteen, or even twenty, were among the pupils. It was not uncommon, at this season, to have forty scholars crowded into this little building.

"I was about six years old when I first went to school. My teacher was Aunt Delight, that is, Delight Benedict, a maiden lady of fifty, short and bent, of sallow complexion and solemn aspect. I remember the

first day with perfect distinctness. I went alone—for I was familiar with the road, it being that which passed by our old house. I carried a little basket, with bread and butter within, for my dinner, the same being covered over with a white cloth. When I had proceeded about half way, I lifted the cover, and debated whether I would not eat my dinner then. I believe it was a sense of duty only that prevented my doing so, for in those happy days I always had a keen appetite. Bread and butter were then infinitely superior to *paté de foie gras* now; but still, thanks to my training, I had also a conscience. As my mother had given me the food for dinner, I did not think it right to convert it into lunch, even though I was strongly tempted.

"I think we had seventeen scholars—boys and girls—mostly of my own age. Among them were some of my after companions. I have since met several of them—one at Savannah, and two at Mobile, respectably established, and with families around them. Some remain, and are now among the gray old men of the town; the names of others I have seen inscribed on the tombstones of their native village. And the rest—where are they?

"The school being organized, we were all seated upon benches, made of what were called *slabs*—that is, boards having the exterior or rounded part of the log on one side: as they were useless for other purposes, these were converted into school-benches, the rounded part down. They had each four supports, consisting of straddling wooden legs, set into auger holes. Our own legs swayed in the air, for they were too short to touch the floor. Oh, what an awe fell over me, when we were all seated and silence reigned around!

"The children were called up, one by one, to Aunt Delight, who sat on a low chair, and required each, as a preliminary, to make his manners, consisting of a small sudden nod or jerk of the head. She then placed the spelling-book—which was Dilworth's—before the pupil, and with a buck-handled penknife pointed, one by one, to the letters of the alphabet, saying, 'What's that?' If the child knew his letters the 'What's that?' very soon ran on thus:

" 'What's that?'

" 'A.'

" 'Stha-a-t?'

" 'B.'

“‘Sna-a-a-t?’

“‘C.’

“‘Sna-a-a-t?’

“‘D.’

“‘Sna-a-a-t?’

“‘E.’ &c.

“I looked upon these operations with intense curiosity and no small respect, until my own turn came. I went up to the school-mistress with some emotion, and when she said, rather spitefully, as I thought, ‘Make your obeisance!’ my little intellects all fled away, and I did nothing. Having waited a second, gazing at me with indignation, she laid her hand on the top of my head, and gave it a jerk which made my teeth clash. I believe I bit my tongue a little; at all events, my sense of dignity was offended, and when she pointed to A, and asked what it was, it swam before me dim and hazy, and as big as a full moon. She repeated the question, but I was doggedly silent. Again, a third time, she said, ‘What’s that?’ I replied: ‘Why don’t you tell me what it is? I didn’t come here to learn you your letters!’ I have not the slightest remembrance of this, for my brains were all a-wool-gathering; but as Aunt Delight affirmed it to be a fact, and it passed into tradition, I put it in. I may have told this story some years ago in one of my books, imputing it to a fictitious hero, yet this is its true origin, according to my recollection.

“What immediately followed I do not clearly remember, but one result is distinctly traced in my memory. In the evening of this eventful day, the school-mistress paid my parents a visit, and recounted to their astonished ears this, my awful contempt of authority. My father, after hearing the story, got up and went away; but my mother, who was a careful disciplinarian, told me not to do so again! I always had a suspicion that both of them smiled on one side of their faces, even while they seemed to sympathize with the old petticoat and penknife pedagogue, on the other; still I do not affirm it, for I am bound to say, of both my parents, that I never knew them, even in trifles, say one thing while they meant another.

“I believe I achieved the alphabet that summer, but my after progress, for a long time, I do not remember. Two years later I went to the winter-school at the same place, kept by Lewis Olmstead—a man who had a call for plowing, mowing, carting manure,

etc., in summer, and for teaching school in the winter, with a talent for music at all seasons, wherefore he became chorister upon occasion, when, peradventure, Deacon Hawley could not officiate. He was a celebrity in ciphering, and ‘Squire Seymour declared that he was the greatest ‘arithmeticker’ in Fairfield county. All I remember of his person is his hand, which seemed to me as big as Goliath’s, judging by the claps of thunder it made in my ears on one or two occasions.

“The next step of my progress which is marked in my memory, is the spelling of words of two syllables. I did not go very regularly to school, but by the time I was ten years old I had learned to write, and had made a little progress in arithmetic. There was not a grammar, a geography, or a history of any kind in the school. Reading, writing, and arithmetic were the only things taught, and these very indifferently—not wholly from the stupidity of the teacher, but because he had forty scholars, and the standards of the age required no more than he performed. I did as well as the other scholars, certainly no better. I had excellent health and joyous spirits; in leaping, running, and wrestling, I had but one superior of my age, and that was Stephen Olmstead, a snug-built fellow, smaller than myself, and who, despite our rivalry, was my chosen friend and companion. I seemed to live for play: alas! how the world has changed since I have discovered that we live to agonize over study, work, care, ambition, disappointment, and then ——?

“As I shall not have occasion again, formally, to introduce this seminary into my narrative, I may as well close my account of it now. After I had left my native town for some twenty years, I returned and paid it a visit. Among the monuments that stood high in my memory was the West Lane school-house. Unconsciously carrying with me the measures of childhood, I had supposed it to be at least thirty feet square; how had it dwindled when I came to estimate it by the new standards I had formed! It was in all things the same, yet wholly changed to me. What I had deemed a respectable edifice, as it now stood before me was only a weather-beaten little shed, which, upon being measured, I found to be less than twenty feet square. It happened to be a warm, summer day, and I ventured to enter the place. I found a girl,

some eighteen years old, keeping 'a ma'am school' for about twenty scholars, some of whom were studying Parley's Geography. The mistress was the daughter of one of my schoolmates, and some of the boys and girls were grandchildren of the little brood which gathered under the wing of Aunt Delight, when I was an a-b-c-darian. None of them, not even the school-mistress, had ever heard of me. The name of my father, as having ministered unto the people of Ridgefield in some bygone age, was faintly traced in their recollection. As to Peter Parley, whose Geography they were learning—they supposed him some decrepit old gentleman hobbling about on a crutch, a long way off, for whom, nevertheless, they had a certain affection, inasmuch as he had made geography into a story-book. The frontispiece-picture of the old fellow, with his gouty foot in a chair, threatening the boys that if they touched his tender toe, he would tell them no more stories, secured their respect, and placed him among the saints in the calendar of their young hearts. Well, thought I, if this goes on I may yet rival Mother Goose!

"At the age of ten years I was sent to the up-town school, the leading seminary of the village, for at this period it had not arrived at the honor of an academy, the institution being then, and many years after, under the charge of Master Stebbins. He was a man with a conciliating stoop in the shoulders, a long body, short legs, and a swaying walk. He was, at this period, some fifty years old, his hair being thin and silvery, and always falling in well-combed rolls over his coat-collar. His eye was blue, and his dress invariably of the same color. Breeches and knee-buckles, blue-mixed stockings, and shoes with bright buckles, seemed as much a part of the man as his head and shoulders. On the whole, his appearance was that of the middle-class gentleman of the olden time, and he was in fact what he seemed.

"This seminary of learning for the rising aristocracy of Ridgefield was a wooden edifice, thirty by twenty feet, covered with brown clapboards, and, except an entry, consisted of a single room. Around and against the walls ran a continuous line of seats, fronted by a continuous writing-desk. Beneath, were depositories for books and writing materials. The centre was occupied by slab seats, similar to those of West Lane. The larger scholars were ranged on the outer sides, at

the desks; the smaller fry of a-b-c-darians were seated in the centre. The master was enshrined on the east side of the room, contrary, be it remembered, to the law of the French savans, which places dominion invariably in the west. Regular as the sun, Master Stebbins was in his seat at nine o'clock, and the performances of the school began.

"According to the Catechism—which, by the way, we learned and recited on Saturday—the chief end of man was to glorify God and keep his commandments: according to the routine of this school, one would have thought it to be reading, writing, and arithmetic, to which we may add spelling. From morning to night, in all weathers, through every season of the year, these exercises were carried on with the energy, patience, and perseverance of a manufactory.

"Master Stebbins respected his calling: his heart was in his work; and so, what he pretended to teach, he taught well. When I entered the school, I found that a huge stride had been achieved in the march of mind since I had left West Lane. Webster's Spelling Book had taken the place of Dilworth, which was a great improvement. The drill in spelling was very thorough, and applied every day to the whole school. I imagine that the exercises might have been amusing to a stranger, especially as one scholar would sometimes go off in a voice as grum as that of a bull-frog, while another would follow in tones as fine and piping as a peet-weet. The blunders, too, were often ineffably ludicrous; even we children would sometimes have tittered, had not such an enormity been certain to have brought out the birch. As to rewards and punishments, the system was this: whoever missed went down; so that perfection mounted to the top. Here was the beginning of the up and down of life.

"Reading was performed in classes, which generally plodded on without a hint from the master. Nevertheless, when Zeek Sanford—who was said to have a streak of lightning in him—in his haste to be smart, read the 37th verse of the 2d chapter of the Acts—'Now when they heard this, they were *pickled* in their heart'—the birch stick on Master Stebbins's table seemed to quiver and peel at the little end, as if to give warning of the wrath to come. When Orry Keeler—Orry was a girl, you know, and not a boy—drawled out in spelling: k—o—n,

kon, s—h—u—n—t—s, *shunts*, *konshunts*—the bristles in the master's eyebrows fidgeted like Aunt Delight's knitting-needles. Occasionally, when the reading was insupportably bad, he took a book and read himself, as an example.

"We were taught arithmetic in Daboll, then a new book, and which, being adapted to our measures of length, weight, and currency, was a prodigious leap over the head of poor old Dilworth, whose rules and examples were modelled upon English customs. In consequence of the general use of Dilworth in our schools, for perhaps a century—pounds, shillings, and pence were classical, and dollars and cents vulgar, for several succeeding generations. 'I would not give a penny for it,' was genteel; 'I would not give a cent for it,' was plebeian. We have not yet got over this: we sometimes say *red cent* in familiar parlance, but it can hardly be put in print without offence.

"Master Stebbins was a great man with a slate and pencil, and I have an idea that we were a generation after his own heart. We certainly achieved wonders according to our own conceptions, some of us going even beyond the Rule of Three, and making forays into the mysterious region of Vulgar Fractions. Several daring geniuses actually entered and took possession.

"But after all, penmanship was Master Stebbins's great accomplishment. He had no magniloquent system; no pompous lessons upon single lines and bifid lines, and the like. The revelations of inspired copy-book makers had not then been vouchsafed to man. He could not cut an American eagle with a single flourish of a goose-quill. He was guided by good taste and native instinct, and wrote a smooth round hand, like copper-plate. His lessons from A to &, all written by himself, consisted of pithy proverbs and useful moral lessons. On every page of our writing-books he wrote the first line himself. The effect was what might have been expected—with such models, patiently enforced, nearly all became good writers.

"Beyond these simple elements, the Uptown school made few pretensions. When I was there, two Webster's Grammars and one or two Dwight's Geographies were in use. The latter was without maps or illustrations, and was in fact little more than an expanded table of contents, taken from Morse's Universal Geography—the mam-

moth monument of American learning and genius of that age and generation. The grammar was a clever book; but I have an idea that neither Master Stebbins nor his pupils ever fathomed its depths. They floundered about in it, as if in a quagmire, and after some time came out pretty nearly where they went in, though perhaps a little obfuscated by the dim and dusky atmosphere of these labyrinths.

"The fact undoubtedly is, that the art of teaching, as now understood, beyond the simplest elements, was neither known nor deemed necessary in our country schools in their day of small things. Repetition, drilling, line upon line, and precept upon precept, with here and there a little of the birch—constituted the entire system.

"Let me here repeat an anecdote, which I have indeed told before, but which I had from the lips of its hero, G . . . H . . . , a clergyman of some note thirty years ago, and which well illustrates this part of my story. At a village school, not many miles from Ridgefield, he was put into Webster's Grammar. Here he read, '*A noun is the name of a thing—as horse, hair, justice.*' Now in his innocence, he read it thus: '*A noun is the name of a thing—as horse-hair justice.*'

"'What then,' said he, ruminating deeply, 'is a noun? But first I must find out what a horse-hair justice is.'

"Upon this he meditated for some days, but still he was as far as ever from the solution. Now his father was a man of authority in those parts, and moreover he was a justice of the peace. Withal, he was of respectable ancestry, and so there had descended to him a somewhat stately high-backed settee, covered with horse-hair. One day, as the youth came from school, pondering upon the great grammatical problem, he entered the front door of the house, and there he saw before him, his father, officiating in his legal capacity, and seated upon the old horse-hair settee. 'I have found it!' said the boy to himself, as greatly delighted as was Archimedes when he exclaimed *Eureka*—'my father is a horse-hair justice, and therefore a noun!'

"Nevertheless, it must be admitted that the world got on remarkably well in spite of this narrowness of the country schools. The elements of an English education were pretty well taught throughout the village seminaries of Connecticut, and I may add,

of New England. The teachers were heartily devoted to their profession: they respected their calling, and were respected and encouraged by the community. They had this merit, that while they attempted but little, that, at least, was thoroughly performed.

"As to the country at large, it was a day of quiet, though earnest action: Franklin's spirit was the great 'schoolmaster abroad'—teaching industry, perseverance, frugality, and thrift, as the end and aim of ambition. The education of youth was suited to what was expected of them. With the simple lessons of the country schools, they moved the world immediately around them. Though I can recollect only a single case—that already alluded to of Ezekiel Sanford—in which one of Master Stebbins's scholars attained any degree of literary distinction, still, quite a number of them, with no school learning beyond what he gave them, rose to a certain degree of eminence. His three sons obtained situations in New York as accountants, and became distinguished in their career. At one period there were three graduates of his school, who were cashiers of banks in that city. My mind adverts now with great satisfaction to several names among the wealthy, honorable, and still active merchants of the great metropolis, who were my fellow-students of the Up-town school, and who there began and completed their education."

To the advantages, such as they were, of the district school, Mr. Goodrich adds an account of his experience on the farm, and his juvenile sports, as well as his early attempts at *whittling* and other mechanical arts, and adds the following reflections:—

"Now all these things may seem trifles, yet in a review of my life, I deem them of some significance. This homely familiarity with the more mechanical arts was a material part of my education; this communion with nature gave me instructive and important lessons from nature's open book of knowledge. My technical education, as will be seen hereafter, was extremely narrow and irregular. This defect was at last partially supplied by the commonplace incidents I have mentioned. The teaching, or rather the training of the senses, in the country—ear and eye, foot and hand, by running, leaping, climbing over hill and mountain, by occasional labor in the garden and on the farm, and by the use of tools—and all this in youth,

is sowing seed which is repaid largely and readily to the hand of after cultivation, however unskilful it may be. This is not so much because of the amount of knowledge available in after-life, which is thus obtained—though this is not to be despised—as it is that healthful, vigorous, manly habits and associations—physical, moral, and intellectual—are thus established and developed.

"It is a riddle to many people that the emigrants from the country into the city, in all ages, outstrip the natives, and become their masters. The reason is obvious: country education and country life are practical, and invigorating to body and mind, and hence those who are thus qualified triumph in the race of life. It has always been, it will always be so; the rustic Goths and Vandals will march in and conquer Rome, in the future, as they have done in the past. I say this, by no means insisting that my own life furnishes any very striking proof of the truth of my remarks; still, I may say that but for the country training and experience I have alluded to, and which served as a foothold for subsequent progress, I should have lingered in my career far behind the humble advances I have actually made.

"Let me illustrate and verify my meaning by specific examples. In my youth I became familiar with every bird common to the country: I knew his call, his song, his hue, his food, his habits; in short, his natural history. I could detect him by his flight, as far as the eye could reach. I knew all the quadrupeds—wild as well as tame. I was acquainted with almost every tree, shrub, bush, and flower, indigenous to the country; not botanically, but according to popular ideas. I recognized them instantly, wherever I saw them; I knew their forms, hues, leaves, blossoms, and fruit. I could tell their characteristics, their uses, the legends and traditions that belonged to them. All this I learned by familiarity with these objects; meeting with them in all my walks and rambles, and taking note of them with the emphasis and vigor of early experience and observation. In after days, I have never had time to make natural history a systematic study; yet my knowledge as to these things has constantly accumulated, and that without special effort. When I have travelled in other countries, the birds, the animals, the vegetation, have interested me as well by their resemblances as their differences, when compared with our own.

In looking over the pages of scientific works on natural history, I have always read with eagerness and intelligence of preparation; indeed, of vivid and pleasing associations. Every idea I had touching these matters was living and sympathetic, and beckoned other ideas to it, and these again originated still others. Thus it is that in the race of a busy life, by means of a homely, hearty start at the beginning, I have, as to these subjects, easily and naturally supplied, in some humble degree, the defects of my irregular education, and that too, not by a process of repulsive toil, but with a relish superior to all the seductions of romance. I am therefore a believer in the benefits accruing from simple country life and simple country habits, as here illustrated, and am, therefore, on all occasions anxious to recommend them to my friends and countrymen. To city people, I would say, educate your children, at least partially, in the country, so as to imbue them with the love of nature, and that knowledge and training which spring from simple rustic sports, exercises, and employments. To country people, I would remark, be not envious of the city, for in the general balance of good and evil, you have your full portion of the first, with a diminished share of the last."

THE HOMESPUN ERA OF COMMON SCHOOLS.
BY HORACE BUSHNELL, D.D.

"But the schools—we must not pass by these, if we are to form a truthful and sufficient picture of the homespun days. The schoolmaster did not exactly go round the district to fit out the children's minds with learning, as the shoemaker often did to fit their feet with shoes, or the tailor to measure and cut for their bodies; but, to come as near it as possible, he boarded round, (a custom not yet gone by,) and the wood for the common fire was supplied in a way equally primitive, viz., by a contribution of loads from the several families, according to their several quantities of childhood. The children were all clothed alike in homespun; and the only signs of aristocracy were, that some were clean and some a degree less so, some in fine white and striped linen, some in brown tow crash; and, in particular, as I remember, with a certain feeling of quality I do not like to express, the good fathers of some testified the opinion they had of their children, by bringing fine round loads of hickory wood to warm them, while some others, I regret to say,

brought only scanty, scraggy, ill-looking heaps of green oak, white birch, and hemlock. Indeed, about all the bickerings of quality among the children, centered in the quality of the wood pile. There was no complaint, in those days, of the want of ventilation; for the large open fire-place held a considerable fraction of a cord of wood, and the windows took in just enough air to supply the combustion. Besides, the bigger lads were occasionally ventilated, by being sent out to cut wood enough to keep the fire in action. The seats were made of the outer slabs from the saw-mill, supported by slant legs driven into and a proper distance through auger holes, and planed smooth on the top by the rather tardy process of friction. But the spelling went on bravely, and we ciphered away again and again, always till we got through Loss and Gain. The more advanced of us, too, made light work of Lindley Murray, and went on to the parsing, finally, of extracts from Shakspeare and Milton, till some of us began to think we had mastered their tough sentences in a more consequential sense of the term than was exactly true. O, I remember (about the remotest thing I can remember) that low seat, too high, nevertheless, to allow the feet to touch the floor, and that friendly teacher who had the address to start a first feeling of enthusiasm and awaken the first sense of power. He is living still, and whenever I think of him, he rises up to me in the far background of memory, as bright as if he had worn the seven stars in his hair. (I said he is living; yes, he is here to-day, God bless him!) How many others of you that are here assembled, recall these little primitive universities of homespun, where your mind was born, with a similar feeling of reverence and homely satisfaction. Perhaps you remember, too, with a pleasure not less genuine, that you received the classic discipline of the university proper, under a dress of homespun, to be graduated, at the close, in the joint honors of broadcloth and the parchment."

We might add other lights and shades to the picture of school life as it was down to a very recent period in New England and New York, but we must refer our readers to that amusing and instructive volume of Rev. Warren Burton, "The District School as it was." We must pass to the elementary schools of Pennsylvania and the Southern States.

LETTER FROM WILLIAM DARLINGTON, M.D.,
LL.D.

"At your request, I propose to attempt a brief and hasty sketch of my acquaintance with, and reminiscences of the *Country Schools*, and their condition, some sixty-five or seventy years since, in the south-eastern corner of the state of Pennsylvania; more particularly the school at Birmingham, Chester county, where the limited instruction of my youthful days was chiefly acquired.

"My earliest recollections of the school to which I was sent go back to that trying period of loose government, rusticity, and scarcity experienced in the interval between the War of Independence and the adoption of the Federal Constitution; and if it were given me to wield the pen of *Tom Brown of Rugby*, I might peradventure furnish some graphic details of our rural seminaries of learning in those days of general destitution. But, under present circumstances, I can only offer the imperfect narrative of incidents and observations, as retained in an almost octogenarian memory.

"At the time when I was first sent to school—say in 1787–8—school-houses were rare; and there was little or no organization for their maintenance. The country round, having been recently ravaged by a hostile army, was scantily supplied with teachers, who occasionally obtained schools by going among the principal families of the vicinage, and procuring subscribers for a quarter's tuition of the children on hand. Those who were too young to be serviceable on the farm were allowed to go to school in the summer season; but the larger ones (*expertus loquor*) could only be spared for that purpose during winter. The extent of rural instruction was then considered to be properly limited to what a worthy London alderman designated as the *three R's*, viz., 'Reading, Riting, and Rithmetic.' To cipher beyond the *Rule of Three* was deemed a notable achievement and mere surplusage among the average of country scholars. The business of teaching, at that day, was disdainfully regarded as among the humblest and most unprofitable of callings; and the *teachers*—often low-bred, intemperate adventurers from the old world—were generally about on a *par* with the prevalent estimate of the profession. Whenever a thriftless vagabond was found to be good for nothing else, he would resort to *school-keep-*

ing, and teaching young American ideas how to shoot! It was my good fortune, however, to have a teacher who was a distinguished exception to the sorry rule referred to. JOHN FORSYTHE was a native of the Emerald Isle, born in 1754, received a good English education at home, and while yet a young man, migrated to the county of *Chester*, in the land of PENN, where he became an excellent schoolmaster. When he arrived in our quakerly settlement, he was a gay young Presbyterian, dressed in the fashionable apparel of the world's people; and being withal musical in his taste, was an expert performer on the violin. He soon, however, adopted the views and principles of the 'Friends,' among whom he remained, married one of the society, and was ever recognized as an exemplary and valuable member.

"As the head and master-spirit of the school, at Birmingham meeting-house, established under the auspices of the Quaker society, he taught for a number of years, and always applied himself *con amore* to his arduous duties. He accomplished more in exciting a taste for knowledge and developing young intellects, than any teacher who had theretofore labored in that hopeful vineyard. He effectually routed the lingering old superstitions, prejudices, and benighted notions of preceding generations, and ever took delight in introducing youthful genius to the bright fields of literature and science. The young men of his day, who have since figured in the world, were deeply indebted to John Forsythe for the aid which he afforded them in their studies, as well as for the sound doctrines which he inculcated; and some few of them yet survive to make the grateful acknowledgment.

"When the noble Quaker institution at *West-town* was erected, near the close of the last century, the skill and experience of John Forsythe were put in requisition, until it was fairly inaugurated; after which he retired to his comfortable farm, in East Bradford, where he passed a venerable old age, until his 87th year, in superintending agricultural employments and in manifesting a lively interest in the progress of education among our people. No instructor has labored in this community more faithfully, nor with better effect. None has left a memory more worthy to be kindly cherished.

"The old *school-house* at Birmingham was a one story stone building, erected by men who did not understand the subject; and

was badly lighted and ventilated. The *discipline* of that day (adopted from the mother country) was pretty severe. The real *birch* of the botanists not being indigenous in the immediate vicinity of the school, an efficient substitute was found in young apple tree sprouts, as unruly boys were abundantly able to testify.

"The *school books* of my earliest recollection were a cheap English spelling book, the Bible for the reading classes, and when we got to ciphering, the 'Schoolmasters' Assistant.' The 'Spelling Book' and 'Assistant' were by Thomas Dilworth, an English schoolmaster at Wapping. The 'Assistant' was a useful work, but has long since disappeared. The 'counterfeit presentment' of the worthy author faced the title-page, and was familiarly known to every schoolboy of my time. The Spelling Book contained a little elementary grammar, in which the English substantives were declined through all the cases (genitive, dative, etc.) of the Latin. But *grammar* was then an unknown study among us. Dilworth's 'Spelling Book,' however, was soon superseded by a greatly improved one, compiled by John Pierce, a respectable teacher of Delaware county, Pennsylvania. This comprised a tolerable English grammar, for that period, and John Forsythe introduced the study into his school with much zeal and earnestness. Intelligent employers were made to comprehend its advantages, and were pleased with the prospect of a hopeful advance in that direction; but dull boys and illiterate parents could not appreciate the benefit. Great boobies often got permission, at home, to evade the study, but they could not get round John Forsythe in that way. They would come into school with this promised indulgence, and loudly announce, 'Daddy says I needn't *larn grammar*; it's no use:' when the energetic response from the desk was, 'I don't care what daddy says. He knows nothing about it; and I say thou shalt learn it!' and so some general notion of the subject was impressed upon the minds even of the stupid; while many of the brighter youths became excellent grammarians.

"In this *Friendly* seminary we were all required to use the *plain language* in conversation, being assured that it was wrong, both morally and grammatically, to say *you* to one person. Our teacher contrived a method of his own for mending our cacology, even while at our noonday sports. He pre-

pared a small piece of board or shingle, which he termed a *paddle*; and whenever a boy was heard uttering bad grammar, he had to take the paddle, step aside, and refrain from play, until he detected some other unlucky urchin trespassing upon syntax; when he was authorized to transfer the badge of interdiction to the last offender, and resume his amusements. It was really curious to observe how critical we soon became, and how much improvement was effected by this whimsical and simple device.

"Pierce's 'Spelling Book' kept its position in our school for several years, but was at length superseded, in the grammatical department, by a useful little volume, prepared by *John Comly*, of Bucks county, Pennsylvania. *Lindley Murray* and others prepared elaborate grammars, which were successively introduced, as our schools improved or created a demand; and so rapidly have the bookmaking competitors in that department multiplied that their name is now legion, and the respective value of their works is known only to experts in the art of teaching.

"Excellent works in *Reading* and *Elocution* are now so abundant and well known in all our respectable seminaries, that they need not to be here enumerated. One of the best and most popular of those works, some half century or more since, was a volume entitled 'The Art of Speaking,' compiled, I think, by a Mr. Rice, in England.

"But, as we have now reached the age of academies, normal institutes, and schools for the people, I presume you will gladly forego a further extension of this prosy narrative, so little calculated to interest a veteran in the great cause of education. I have ever been a sincere friend and advocate of the blessing; but, unfortunately, my acquaintance with it has been mainly limited to a humbling consciousness of my deficiencies in the ennobling attainment.

"Very respectfully,

"WM. DARLINGTON.

"WEST CHESTER, PA., Dec. 21, 1860."

SCHOOLS IN PHILADELPHIA.

The following picture of the internal economy of one of the best schools of Philadelphia, is taken from Watson's "Annals of Philadelphia and Pennsylvania."

"My facetious friend, Lang Syne, has presented a lively picture of the 'schoolmas-

ters' in those days, when 'preceptors,' and 'principals,' and 'professors' were yet unnamed. What is now known as 'Friends' Academy,' in Fourth street, was at that time occupied by four different masters. The best room down-stairs by Robert Proud, Latin master; the one above him, by William Waring, teacher of astronomy and mathematics; the east room, up-stairs, by Jeremiah Paul, and the one below, 'last not least' in our remembrance, by J. Todd, and severe he was. The State House clock, being at the time visible from the school pavement, gave to the eye full notice when to break off marble and plug top, hastily collect the 'stakes,' and bundle in, pell-mell, to the school-room, where, until the arrival of the 'master of scholars,' John Todd, they were busily employed, every one in finding his place, under the control for the time of a short Irishman, usher, named Jimmy M'Cue. On the entrance of the master, all shuffling of the feet, 'scrouging,' hitting of elbows, and whispering disputes, were hastily adjusted, leaving a silence which might be felt, 'not a mouse stirring.' He, Todd, dressed after the plainest manner of Friends, but of the richest material, with looped cocked hat, was at all times remarkably clean and nice in his person, a man of about sixty years, square built, and well sustained by bone and muscle.

"After an hour, maybe, of quiet time, every thing going smoothly on—no sound, but from the master's voice, while hearing the one standing near him, a dead calm, when suddenly a brisk slap on the ear or face, for something or for nothing, gave 'dreadful note' that an eruption of the lava was now about to take place. Next thing to be seen was 'strap in full play over the head and shoulders of Pilgarlic.' The passion of the master 'growing by what it fed on,' and wanting elbow room, the chair would be quickly thrust on one side, when, with sudden gripe, he was to be seen dragging his struggling suppliant to the flogging ground, in the centre of the room; having placed his left foot upon the end of a bench, he then, with a patent jerk, peculiar to himself, would have the boy completely horsed across his knee, with his left elbow on the back of his neck, to keep him securely on. In the hurry of the moment he would bring his long pen with him, griped between his strong teeth (visible the

while), causing both ends to descend to a parallel with his chin, and adding much to the terror of the scene. His face would assume a deep claret color—his little bob of hair would disengage itself, and stand out, each 'particular hair' as it were, 'up in arms and eager for the fray.' Having his victim thus completely at command, and all useless drapery drawn up to a bunch above the waistband, and the rotundity and the nankeen in the closest affinity possible for them to be, then once more to the 'staring crew' would be exhibited the dexterity of master and strap. By long practice he had arrived at such perfection in the exercise, that, moving in quick time, the fifteen inches of bridle rein (*alias* strap) would be seen after every cut, elevated to a perpendicular above his head; from whence it descended like a flail on the stretched nankeen, leaving 'on the place beneath' a fiery red streak, at every slash. It was customary with him to address the sufferer at intervals, as follows: 'Does it hurt?' 'Oh! yes, master; oh! don't, master.' 'Then I'll make it hurt thee more. I'll make thy flesh creep—thou shan't want a warming pan to-night. Intolerable being! Nothing in nature is able to prevail upon thee but my strap.' He had one boy named George Fudge, who usually wore leather breeches, with which he put strap and its master at defiance. He would never acknowledge pain—he would not 'sing out.' Todd seized him one day, and having gone through the evolutions of strapping (as useless, in effect, as if he had been thrashing a flour-bag), almost breathless with rage, he once more appealed to the feelings of the 'reprobate,' by saying: 'Does it not hurt?' The astonishment of the school and the master was completed, on hearing him sing out, 'No! Hurray for leather crackers!' He was thrown off immediately, sprawling on the floor, with the benediction as follows: 'Intolerable being! Get out of my school. Nothing in nature is able to prevail upon thee—not even my strap!'

"'Twas not 'his love of learning was in fault,' so much as the old British system of introducing learning and discipline into the brains of boys and soldiers by dint of punishment. The system of flogging on all occasions in schools, for something or for nothing, being protected by law, gives free play to the passions of the master, which he, for one, exercised with great severity.

The writer has, at this moment, in his memory, a schoolmaster *then* of this city, who, a few years ago, went deliberately out of his school to purchase a cow-skin, with which, on his return, he extinguished his bitter revenge on a boy who had offended him. The age of chivalry preferred ignorance in its sons, to having them subjected to the fear of a pedagogue—believing that a boy who had quailed under the eye of the schoolmaster, would never face the enemy with boldness on the field of battle; which it must be allowed is ‘a swing of the pendulum’ too far the other way. A good writer says: ‘We do not *harden* the wax to receive the impression—wherefore, the teacher seems himself most in need of *correction*—for he, unfit to teach, is making them unfit to be taught!’

“I have been told by an aged gentleman, that in the days of his boyhood, sixty-five years ago, when boys and girls were together, it was a common practice to make the boys strip off their jackets, and loose their trowsers’ band, preparatory to hoisting them upon a boy’s back so as to get his whipping, with only the linen between the flesh and the strap. The girls too—we pity them—were obliged to take off their stays to receive their floggings with equal sensibility. He named one distinguished lady, *since*, who was so treated among others, in his school. All the teachers then were from England and Ireland, and brought with them the rigorous principles which had before been whipped into themselves at home.”

Robert Coram, in a pamphlet devoted in part to a “Plan for the General Establishment of Schools throughout the United States,” printed in Wilmington, Delaware, in 1791, characterizes the state of education as follows: “The country schools, through most of the United States, whether we consider the buildings, the teachers, or the regulations, are in every respect completely despicable, wretched, and contemptible. The buildings are in general sorry hovels, neither wind-tight nor water-tight; a few stools serving in the double capacity of bench and desk, and the old leaves of copy books making a miserable substitute for glass windows. The teachers are generally foreigners, shamefully deficient in every qualification necessary to convey instruction to youth, and not seldom addicted to gross

vices. Absolute in his own opinion, and proud of introducing what he calls his European method, one calls the first letter of the alphabet, *aw*. The school is modified upon this plan, and the children who are advanced are beat and cuffed to forget the former mode they have been taught, which irritates their minds and retards their progress. The quarter being finished, the children lie idle until another master offers, few remaining in one place more than a quarter. When the next schoolmaster is introduced, he calls the first letter *a*, as in *mat*; the school undergoes another reform, and is equally vexed and retarded. At his removal a third is introduced, who calls the first letter *kay*. All these blockheads are equally absolute in their own notions, and will by no means suffer the children to pronounce the letter as they were first taught; but every three months the school goes through a reform—error succeeds error, and dunces the second reigns like dunces the first. I will venture to pronounce, that however seaport towns, from local circumstances, may have good schools, the country schools will remain in their present state of despicable wretchedness, unless incorporated with government. * * * The necessity of a reformation in the country schools is too obvious to be insisted on; and the first step to such a reformation will be by turning private schools into public ones. The schools should be public, for several reasons—1st. Because, as has been before said, every citizen has an equal right to subsistence, and ought to have an equal opportunity of acquiring knowledge. 2d. Because public schools are easiest maintained, as the burthen falls upon all the citizens. The man who is too squeamish or lazy to get married, contributes to the support of public schools, as well as the man who is burthened with a large family. But private schools are supported only by heads of families, and by those only while they are interested; for as soon as the children are grown up, their support is withdrawn; which makes the employment so precarious, that men of ability and merit will not submit to the trifling salaries allowed in most country schools, and which, by their partial support, cannot afford a better.”

SCHOOL HOLIDAY IN GEORGIA.

We have not been very successful in gathering the printed testimony of the dead, or

the vivid reminiscences of the living, respecting the internal economy of schools, public or family, in any of the Southern states prior to 1800. The following graphic sketch of "the turn out" of the schoolmaster, from Judge Longstreet's "Georgia Scenes," is said to be "literally true:"

"In the good old days of *fescues*, *abisself-as* and *anpersants*,* terms which used to be familiar in this country during the Revolutionary war, and which lingered in some of our country schools for a few years afterward, I visited my friend Captain Griffen, who resided about seven miles to the eastward of Wrightsborough, then in Richmond, but now in Columbia county. I reached the captain's hospitable home on Easter, and was received by him and his good lady with a *Georgia welcome* of 1790.

"The day was consumed in the interchange of news between the captain and myself (though, I confess, it might have been better employed), and the night found us seated round a temporary fire, which the captain's sons had kindled up for the purpose of dyeing eggs. It was a common custom of those days with boys to dye and peck eggs on Easter Sunday, and for a few days afterward. They were colored according to the fancy of the dyer; some yellow, some green, some purple, and some with a variety of colors, borrowed from a piece of calico. They were not unfrequently beautified with a taste and skill which would have extorted a compliment from Hezekiah Niles, if he had seen them a year ago, in the hands of the '*young operatives*,' in some of the northern manufactories. No sooner was the work of dyeing finished, than our '*young operatives*' sallied forth to stake the whole proceeds of their '*domestic industry*' upon a peck. Egg was struck against egg, point to point, and the egg that was broken was

given up as lost to the owner of the one which came whole from the shock.

"While the boys were busily employed in the manner just mentioned, the captain's youngest son, George, gave us an anecdote highly descriptive of the Yankee and Georgia character, even in their buddings, and at this early date. 'What you think, pa,' said he, 'Zeph Pettibone went and got his uncle Zach to turn him a wooden egg; and he won a whole hatful o' eggs from all us boys 'fore we found it out; but, when we found it out, maybe John Brown didn't smoke him for it, and took away all his eggs, and give 'em back to us boys; and you think he didn't go then and git a guinea egg, and win most as many more, and John Brown would o' give it to him agin if all we boys hadn't said we thought it was fair. I never see such a boy as that Zeph Pettibone in all my life. He don't mind whipping no more 'an nothing at all, if he can win eggs.'

"This anecdote, however, only fell in by accident, for there was an all-absorbing subject which occupied the minds of the boys during the whole evening, of which I could occasionally catch distant hints, in under tones and whispers, but of which I could make nothing, until they were afterward explained by the captain himself. 'Such as 'I'll be bound Pete Jones and Bill Smith stretch him.' 'By Jockey, soon as they seize him, you'll see me down upon him like a duck upon a June-bug.' 'By the time he touches the ground, he'll think he's got into a hornet's nest,' etc.

"The boys,' said the captain, as they retired, 'are going to turn out the schoolmaster to-morrow, and you can perceive they think of nothing else. We must go over to the schoolhouse and witness the contest, in order to prevent injury to preceptor or pupils; for, though the master is always, upon such occasions, glad to be turned out, and only struggles long enough to present his patrons a fair apology for giving the children a holiday, which he desires as much as they do, the boys always conceive a holiday gained by a 'turn out' as the sole achievement of their valor; and in their zeal to distinguish themselves upon such memorable occasions, they sometimes become too rough, provoke the master to wrath, and a very serious conflict ensues. To prevent these consequences, to bear witness that the master was *forced* to yield before he would withhold a day of his promised labor from his

* The *fescue* was a sharpened wire or other instrument used by the preceptor to point out the letters to the children.

Abisselfa is a contraction of the words "a by itself, a." It was usual, when either of the vowels constituted a syllable of a word, to pronounce it, and denote its independent character by the words just mentioned, thus: "a by itself, a, c-o-r-n corn, acorn;" "e by itself, e, v-i-l, evil," etc.

The character which stands for the word "*and*" (&) was probably pronounced with the same accompaniment, but in terms borrowed from the Latin language, thus: "& *per se*" (by itself) *and*. Hence, "*anpersant*."

employers, and to act as a mediator between him and the boys in settling the articles of peace, I always attend; and you must accompany me to-morrow.' I cheerfully promised to do so.

"The captain and I rose before the sun, but the boys had risen and were off to the school-house before the dawn. After an early breakfast, hurried by Mrs. G. for our accommodation, my host and myself took up our line of march toward the school-house. We reached it about half an hour before the master arrived, but not before the boys had completed its fortifications. It was a simple log pen, about twenty feet square, with a doorway cut out of the logs, to which was fitted a rude door, made of clapboards, and swung on wooden hinges. The roof was covered with clapboards also, and retained in their places by heavy logs placed on them. The chimney was built of logs, diminishing in size from the ground to the top, and over-spread inside and out with red clay mortar. The classic hut occupied a lovely spot, over-shadowed by majestic hickories, towering poplars, and strong-armed oaks. The little plain on which it stood was terminated, at the distance of about fifty paces from its door, by the brow of a hill, which descended rather abruptly to a noble spring that gushed joyously forth among the roots of a stately beech at its foot.

"The boys had strongly fortified the school-house, of which they had taken possession. The door was barricaded with logs, which I should have supposed would have defied the combined powers of the whole school. The chimney, too, was nearly filled with logs of goodly size; and these were the only pass-ways to the interior. I concluded, if a *turn out* was all that was necessary to decide the contest in favor of the boys, they had already gained the victory. They had, however, not as much confidence in their out-works as I had, and therefore had armed themselves with long sticks, not for the purpose of using them upon the master if the battle should come to close quarters, for this was considered unlawful warfare, but for the purpose of guarding their *works* from his approaches, which it was considered perfectly lawful to protect by all manner of jabs and punches through the cracks. From the early assembling of the girls, it was very obvious that they had been let into the conspiracy, though they took no part in the active operations. They would, however,

occasionally drop a word of encouragement to the boys, such as 'I wouldn't turn out the master; but if I did turn him out, I'd die before I'd give up.'

"At length Mr. Michael St. John, the schoolmaster made his appearance. Though some of the girls had met him a quarter of a mile from the school-house, and told him all that had happened, he gave signs of sudden astonishment and indignation when he advanced to the door, and was assailed by a whole platoon of sticks from the cracks: 'Why, what does all this mean?' said he, as he approached the captain and myself, with a countenance of two or three varying expressions.

"'Why,' said the captain, 'the boys have turned you out, because you have refused to give them an Easter holiday.'

"'Oh,' returned Michael, 'that's it, is it? Well, I'll see whether their parents are to pay me for letting their children play when they please.' So saying, he advanced to the school-house, and demanded, in a lofty tone, of its inmates, an unconditional surrender.

"'Well, give us a holiday, then,' said twenty little urchins within, 'and we'll let you in.'

"'Open the door of the *academy*'—(Michael would allow nobody to call it a school-house)—'Open the door of the academy this instant,' said Michael, 'or I'll break it down.'

"'Break it down,' said Pete Jones and Bill Smith, 'and we'll break you down.'

"During this colloquy I took a peep into the fortress, to see how the garrison were affected by the parley. The little ones were obviously panic-struck at the first words of command; but their fears were all chased away by the bold determined reply of Pete Jones and Bill Smith, and they raised a whoop of defiance.

"Michael now walked round the academy three times, examining all its weak points with great care. He then paused, reflected for a moment, and wheeled off suddenly toward the woods, as though a bright thought had just struck him. He passed twenty things which I supposed he might be in quest of, such as huge stones, fence rails, portable logs, and the like, without bestowing the least attention upon them. He went to one old log, searched it thoroughly, then to another, then to a hollow stump, peeped into it with great care, then to a

hollow log, into which he looked with equal caution, and so on.

“‘What is he after?’ inquired I.

“‘I’m sure I don’t know,’ said the captain, ‘but the boys do. Don’t you notice the breathless silence which prevails in the school-house, and the intense anxiety with which they are eyeing him through the cracks?’

“At this moment Michael had reached a little excavation at the root of a dogwood, and was in the act of putting his hand into it, when a voice from the garrison exclaimed, with most touching pathos, ‘Lo’d o’ messy, he’s found my eggs! boys, let’s give up.’

“‘I won’t give up,’ was the reply from many voices at once.

“‘Rot your cowardly skin, Zeph Pettibone, you wouldn’t give a wooden egg for all the holydays in the world.’

“If these replies did not reconcile Zephaniah to his apprehended loss, it at least silenced his complaints. In the mean time Michael was employed in relieving Zeph’s storehouse of its provisions; and, truly, its contents told well for Zeph’s skill in egg-pecking. However, Michael took out the eggs with great care, and brought them within a few paces of the schoolhouse, and laid them down with equal care in full view of the besieged. He revisited the places which he had searched, and to which he seemed to have been led by intuition; for from nearly all of them did he draw eggs, in greater or less numbers. These he treated as he had done Zeph’s, keeping each pile separate. Having arranged the eggs in double files before the door, he marched between them with an air of triumph, and once more demanded a surrender, under pain of an entire destruction of the garrison’s provisions.

“‘Break ’em just as quick as you please,’ said George Griffin; ‘our mothers ’ll give us a plenty more, won’t they, pa?’

“‘I can answer for yours, my son,’ said the captain; ‘she would rather give up every egg upon the farm than to see you play the coward or traitor to save your property.’

“Michael, finding that he could make no impression upon the fears or the avarice of the boys, determined to carry their fortifications by storm. Accordingly he procured a heavy fence-rail, and commenced the assault upon the door. It soon came to pieces, and the upper logs fell out, leaving a space of about

three feet at the top. Michael boldly entered the breach, when, by the articles of war, sticks were thrown aside as no longer lawful weapons. He was resolutely met on the half-demolished rampart by Peter Jones and William Smith, supported by James Griffin. These were the three largest boys in the school; the first about sixteen years of age, the second about fifteen, and the third just eleven. Twice was Michael repulsed by these young champions; but the third effort carried him fairly into the fortress. Hostilities now ceased for a while, and the captain and I, having levelled the remaining logs at the door, followed Michael into the house. A large three inch plank (if it deserve that name, for it was wrought from the half of a tree’s trunk entirely with the axe), attached to the logs by means of wooden pins, served the whole school for a writing desk. At a convenient distance below it, and on a line with it, stretched a smooth log, resting upon the logs of the house, which answered for the writers’ seat. Michael took his seat upon the desk, placed his feet on the seat, and was sitting very composedly, when with a simultaneous movement, Pete and Bill seized each a leg, and marched off with it in quick time. The consequence is obvious; Michael’s head first took the desk, then the seat, and finally the ground (for the house was not floored), with three sonorous thumps of most doleful portent. No sooner did he touch the ground than he was completely buried with boys. The three elder laid themselves across his head, neck and breast, the rest arranging themselves *ad libitum*. Michael’s equanimity was considerably disturbed by the first thump, became restive with the second, and took flight with the third. His first effort was to disengage his legs, for without them he could not rise, and to lie in his present position was extremely inconvenient and undignified. Accordingly he drew up his right, and kicked at random. This movement laid out about six in various directions upon the floor. Two rose crying: ‘Ding his old red-headed skin,’ said one of them, ‘to go and kick me right in my sore belly, where I fell down and raked it, running after that fellow that cried “school butter.”’ *

* “I have never been able to satisfy myself clearly as to the literal meaning of these terms. They were

" 'Drot his old snaggle-tooth picture,' said the other, 'to go and hurt my sore toe, where I knocked the nail off going to the spring to fetch a gourd of *warter* for him, and not for myself n'other.'

" 'Hut!' said Captain Griffin, 'young Washingtons mind these trifles! At him again.'

"The name of Washington cured their wounds and dried up their tears in an instant, and they legged him *de novo*. The left leg treated six more as unceremoniously as the right had those just mentioned; but the talismanic name had just fallen upon their ears before the kick, so they were invulnerable. They therefore returned to the attack without loss of time. The struggle seemed to wax hotter and hotter for some time after Michael came to the ground, and he threw the children about in all directions and postures, giving some of them thrusts which would have placed the *ruffle-shirted* little darlings of the present day under the discipline of paregoric and opodeldoc for a week; but these hardy sons of the south seemed not to feel them. As Michael's head grew easy, his limbs, by a natural sympathy, became more quiet, and he offered one day's holiday as the price. The boys demanded a week; but here the captain interposed, and after the common but often unjust custom of arbitrators, split the difference. In this instance the terms were equitable enough, and were immediately acceded to by both parties. Michael rose in a good humor, and the boys were of course. Loud was their talking of their deeds of valor as they retired. One little fellow about seven years old, and about three feet and a half high, jumped up, cracked his feet together, and exclaimed, 'By jingo, Pete Jones, Bill Smith and *me* can hold any *Sinjin* [St. John] that ever trod Georgy grit.' "

considered an unpardonable insult to a country school, and always justified an attack by the whole fraternity upon the person who used them in their hearing. I have known the scholars pursue a traveller two miles to be revenged of the insult. Probably they are a corruption of 'The school's better.' 'Better' was the term commonly used of old to denote a *superior*, as it sometimes is in our day: 'Wait till your betters are served,' for example. I conjecture, therefore, the expression just alluded to was one of challenge, contempt, and defiance, by which the person who used it avowed himself the *superior* in all respects of the whole school, from the preceptor down. If any one can give a better account of it, I shall be pleased to receive it."

AN OLD FIELD SCHOOL, OR ACADEMY, IN VIRGINIA.

THE experience of one of that class of teachers, who found temporary occupation in teaching the children of one or more families of planters in Virginia and other southern states, will be found in the "Travels of Four Years and a Half in the United States (in 1798, 1799, 1800, 1801 and 1802), by John Davis." Mr. Davis was an Englishman of more than ordinary education and of social address, and while in this country numbered among his friends such men as Aaron Burr, President Jefferson, and other men of high political standing. He was a private tutor in New York, South Carolina and Virginia, and his graphic sketches of men and manners show some of the deficiencies in the means of education which even wealthy planters in the southern states experienced. With letters of introduction from President Jefferson he proceeds to the plantation of a Mr. Ball, and is engaged to teach his and his neighbors' children:

"The following day every farmer came from the neighborhood to the house, who had any children to send to my Academy, for such they did me the honor to term the log-hut in which I was to teach. Each man brought his son, or his daughter, and rejoiced that the day was arrived when their little ones could light their tapers at the torch of knowledge! I was confounded at the encomiums they heaped upon a man whom they had never seen before, and was at a loss what construction to put upon their speech. No price was too great for the services I was to render their children; and they all expressed an eagerness to exchange perishable coin for lasting knowledge. If I would continue with them seven years! only seven years! they would erect for me a brick seminary on a hill not far off; but for the present I was to occupy a log-house, which, however homely, would soon vie with the sublime college of William and Mary, and consign to oblivion the renowned academy in the vicinity of Fauquier Court-House. I thought Englishmen sanguine; but these Virginians were infatuated.

"I now opened what some called an academy,* and others an Old Field School;

* "It is worth the while to describe the academy I occupied on Mr. Ball's plantation. It had one room and a half. It stood on blocks about two feet

and, however it may be thought that content was never felt within the walls of a seminary, I, for my part, experienced an exemption from care, and was not such a fool as to measure the happiness of my condition by what others thought of it.

"It was pleasurable to behold my pupils enter the school over which I presided; for they were not composed only of truant boys, but some of the fairest damsels in the country. Two sisters generally rode on one horse to the school-door, and I was not so great a pedagogue as to refuse them my assistance to dismount from their steeds. A running-footman of the negro tribe, who followed with their food in a basket, took care of the beast; and after being saluted by the young ladies with the courtesies of the morning, I proceeded to instruct them, with gentle exhortations to diligence of study.

"Common books were only designed for common minds. The unconnected lessons of Scot, the tasteless selections of Bingham, the florid harangues of Noah Webster, and the somniferous compilation of Alexander, were either thrown aside, or suffered to gather dust on the shelf; while the charming essays of Goldsmith, and his not less delectable *Novel*, together with the impressive work of Defoe, and the mild productions of Addison, conspired to enchant the fancy, and kindle a love of reading. The thoughts of these writers became engrafted on the minds, and the combinations of their diction on the language of the pupils.

"Of the boys I cannot speak in very encomiastic terms; but they were perhaps like all other school-boys, that is, more disposed to play truant than enlighten their minds.

and a half above the ground, where there was free access to the hogs, the dogs, and the poultry. It had no ceiling, nor was the roof lathed or plastered, but covered with shingles. Hence, when it rained, like the nephew of old Elwes, I moved my bed (for I slept in my academy) to the most comfortable corner. It had one window, but no glass, nor shutter. In the night, to remedy this, the mulatto wench who waited on me, contrived very ingeniously to place a square board against the window with one hand, and fix the rail of a broken down fence against it with the other. In the morning, when I returned from breakfasting in the 'great big house,' (my scholars being collected,) I gave the rail a forcible kick with my foot, and down tumbled the board with an awful roar. 'Is not my window,' said I to Virginia, 'of a very curious construction?' 'Indeed, indeed, sir,' replied my fair disciple, 'I think it is a mighty noisy one.'

The most important knowledge to an American, after that of himself, is the geography of his country. I, therefore, put into the hands of my boys a proper book, and initiated them by an attentive reading of the discoveries of the Genoese; I was even so minute as to impress on their minds the man who first descried land on board the ship of Columbus. That man was Roderic Triana, and on my exercising the memory of a boy by asking him the name, he very gravely made answer, Roderic Random.

"Among my male students was a New Jersey gentleman of thirty, whose object was to be initiated in the language of Cicero and Virgil. He had before studied the Latin grammar at an academy school (I use his own words) in his native state; but the academy school being burnt down, his grammar, alas! was lost in the conflagration, and he had neglected the pursuit of literature since the destruction of his book. When I asked him if he did not think it was some Goth who had set fire to his academy school, he made answer, 'So, it is like enough.'

"Mr. Dye did not study Latin to refine his taste, direct his judgment, or enlarge his imagination; but merely that he might be enabled to teach it when he opened school, which was his serious design. He had been bred a carpenter, but he panted for the honors of literature."

Mr. Davis accounts for his fidelity in teaching more hours than he was required to do by his contract, by his interest in the lessons of one of his female pupils:

"Hence I frequently protracted the studies of the children till one, or half past one o'clock; a practice that did not fail to call forth the exclamations both of the white and the black people. Upon my word, Mr. Ball would say, this gentleman is diligent; and Aunt Patty the negro cook would remark, 'He good cool-mossa that; he not like old Hodgkinson and old Harris, who let the boys out before twelve. He deserve good wages!'"

"Having sent the young ladies to the family mansion, I told the boys to break up, and in a few minutes they who had even breathed with circumspection, now gave loose to the most riotous merriment, and betook themselves to the woods, followed by all the dogs on the plantation."

"There was a carpenter on the plantation, whom Mr. Ball had hired by the year.

He had tools of all kinds, and the recreation of Mr. Dye, after the labor of study, was to get under the shade of an oak, and make tables, or benches, or stools for the academy. So true is the assertion of Horace, that the cask will always retain the flavor of the liquor with which it is first impregnated.

“Well, Mr. Dye, what are you doing?”

“I am making a table for the academy school.”

“What wood is that?”

“It is white oak, sir.”

“What, then you are skilled in trees, you can tell oak from hickory, and ash from fir?”

“Like enough, sir. (A broad grin.) I ought to know those things; I served my time to it.”

“Carpenter.—I find, sir, Mr. Dye has done with his old trade; he is above employing his hands; he wants work for the brain. Well! larning is a fine thing; there’s nothing like larning. I have a son only five years old, that, with proper larning, I should not despair of seeing a member of Congress. He is a boy of genius; he could play on the Jews-harp from only seeing Sambo tune it once.”

“Mr. Dye.—I guess that’s Billy; he is a right clever child.”

“Carpenter.—How long, sir, will it take you to learn Mr. Dye Latin?”

“Schoolmaster.—How long, sir, would it take me to ride from Mr. Ball’s plantation to the plantation of Mr. Wormley Carter?”

“Carpenter.—Why that, sir, I suppose, would depend upon your horse.”

“Schoolmaster.—Well, then, sir, you solve your own interrogation. But here comes Dick. What has he got in his hand?”

“Mr. Dye.—A mole like enough. Who are you bringing that to, Dick?”

“Dick.—Not to you. You never gave me the taste of a dram since I first know’d you. Worse luck to me; you New Jersey men are close shavers; I believe you would skin a louse. This is a mole. I have brought it for the gentleman who came from beyond sea. He never refuses Dick a dram; I would walk through the wilderness of Kentucky to serve him. Lord! how quiet he keeps his school. It is not now as it was; the boys don’t go clack, clack, clack, like Squire Pendleton’s mill upon Catharpin Run!”

“Schoolmaster.—You have brought that mole, Dick, for me.”

“Dick.—Yes, master, but first let me tell you the history of it. This mole was once a man; see, master (Dick exhibits the mole), it has got hands and feet just like you and me. It was once a man, but so proud, so lofty, so puffed-up, that God, to punish his insolence, condemned him to crawl under the earth.”

“Schoolmaster.—A good fable, and not unhappily moralized. Did you ever hear or read of this before, Mr. Dye?”

“Mr. Dye.—Nay (a broad grin), I am right certain it does not belong to Æsop. I am certain sure Dick did not find it there.”

“Dick.—Find it where? I would not wrong a man of the value of a grain of corn. I came across the mole as I was hoeing the potato-patch. Master, shall I take it to the school-house? If you are fond of birds, I know now for a mocking-bird’s nest; I am only afeared those young rogues, the school-boys, will find out the tree. They play the mischief with every thing, they be full of devilment. I saw Jack Lockhart throw a stone at the old bird, as she was returning to feed her young; and if I had not coaxed him away to look at my young puppies, he would have found out the nest.”

“I had been three months invested in the first executive office of pedagogue, when a cunning old fox of a New Jersey planter (a Mr. Lee) discovered that his eldest boy wrote a better hand than I. Fame is swift-footed; *vires acquirit eundo*; the discovery spread far and wide; and whithersoever I went, I was an object for the hand of scorn to point his slow unmoving finger at, as a schoolmaster that could not write. Virginia gave me for the persecutions I underwent a world of sighs, her swelling heavens rose and fell with indignation at old Lee and his abettors. But the boys caught spirit from the discovery. I could perceive a mutiny breaking out among them; and had I not in time broke down a few branches from an apple tree before my door, it is probable they would have displayed their gratitude for my instructions by throwing me out of my school-window. But by arguing with one over the shoulders, and another over the back, I maintained with dignity the first executive office of pedagogue.

“I revenged myself amply on old Lee. It was the custom of his son (a lengthy fellow of about twenty) to come to the academy with a couple of huge mastiffs at his heels. Attached to their master (*par nobile*

fratrum) they entered without ceremony Pohoke Academy, bringing with them myriads of fleas, wood-lice, and ticks. Nay, they would often annoy Virginia, by throwing themselves at her feet, and inflaming the choler of a little lap-dog, which I had bought because of his diminutive size, and which Virginia delighted to nurse for me. I could perceive the eye of Virginia rebuke me for suffering the dogs to annoy her; and there lay more peril in her eye than in the jaws of all the mastiffs in Prince William County.

“‘Mr. Lee,’ said I, ‘this is the third time I have told you not to convert the academy into a kennel, and bring your dogs to school.’ Lee was mending his pen ‘judgmatically.’ He made no reply, but smiled.

“‘I knew old Dick the negro had a bitch, and that his bitch was proud. I walked down to Dick’s log-house. Dick was beating flax.

“‘Dick,’ said I, ‘old Farmer Lee has done me much evil—(I don’t like the old man myself, master, said Dick)—and his son, repugnant to my express commands, has brought his father’s two plantation dogs to the academy. Revenge is sweet—’

“‘Right, master,’ said Dick. ‘I never felt so happy as when I bit off Cuffey’s great toe and swallowed it—’

“‘Do you, Dick,’ said I, ‘walk past the school-house with your bitch. Lee’s dogs will come out after her. Go round with them to your log-house; and when you have once secured them, hang both of them up by the neck.’

“‘Leave it to me, master,’ said Dick. ‘I’ll fix the business for you in a few minutes. I have a few fadoms of rope in my house—that will do it.’

“I returned to the academy. The dogs were stretched at their ease on the floor. ‘Oh! I am glad you are come,’ exclaimed Virginia; ‘those great big dogs have quite scared me.’

“In a few minutes Dick passed the door with his slut. Quick from the floor rose Mr. Lee’s two dogs, and followed the female. The rest may be supplied by the imagination of the reader. Dick hung up both the dogs to the branch of a pine-tree; old Lee lost the guards to his plantation; the negroes broke open his barn, pilfered his sacks of Indian corn, rode his horses in the night—and thus was I revenged on Alexander the coppersmith.

“Three months had now elapsed, and I

was commanded officially to resign my sovereign authority to Mr. Dye, who was in every respect better qualified to discharge its sacred functions. He understood tare and tret, wrote a copper-plate hand, and, balancing himself upon one leg, could flourish angels and corkscrews. I, therefore, gave up the ‘academy school’ to Mr. Dye, to the joy of the boys, but the sorrow of Virginia.”

Whilst schools were thus poorly equipped and the instruction given was thus defective in its methods and meagre in its extent, it becomes of interest to inquire whence such a measure of general intelligence and so many individual cases of attaining to an eminent position in society. This was the result of no single cause alone, but of a variety in combination.

The first of these that may be named, both in its influence upon childhood and upon manhood, was the necessity of a hard fought battle for existence, but relieved by the assurance that victory would be the reward of persistent exertion. Its results were robustness, patience of toil, resoluteness and perseverance in encountering difficulties, and fertility of resources. The rustic lad,—and making the necessary variations, we include the female sex with the representative male,—the rustic lad who had been trained to help his parents from the moment he had acquired strength to steady his steps, to toil on all the same whether the bright sun cheered him or the chill air benumbed his limbs; whether his tasks were varied, pleasant and light, or, on the contrary, he had learned patience, marching beside the patient ox all the long hours of a long spring day, the animals only alternating with others which served as relays; and had been no stranger to such discipline as picking stones in the stubble whilst the sad heavens distilled a drizzly rain, they condensing all their gloom in his soul, but withheld those large and frequent drops which would have been the signal of his release; and among the least severe of whose lessons in acquiring hardihood had been, in gathering the fruits of autumn, to face its frosts without mittens or shoes; this lad found nothing in the difficulties of the school-room to appall him, and storms and deep drifts rather added zest to his daily walks. No unintelligible jargon of the spelling book, no abstruse section in his reader, was an overmatch for his industry.

True, he did not understand all he studied, but he learned to spell and to read and to commit to memory what was assigned him. And when he took his arithmetic, which contained only definitions, rules and examples, although his teacher vouchsafed him little explanation, he had perseverance enough to ponder every dark process till light broke through. And there were instances of boys who worked for consecutive hours and days at problems confessedly some of the most knotty that could be found, till at last their unaided exertions were rewarded with success, which brought more exquisite joy than ever thrilled the finder of a rare gem. These exceptional cases stimulated the more dull, and most became possessed of at least the rudiments of the science, quite sufficient for practical life, or which under the stimulus of necessity became subsequently enlarged to that extent. In manhood no blind adherence to traditional methods was or could be observed. Emergencies were constantly arising which taxed ingenuity to the utmost in devising the fitting expedients to meet them. It was a daily study to make the narrowest means serve the same ends as the amplest. Hard thought was expended without stint upon labor-saving processes, improvements and inventions. Thus was gained a discipline of mind beyond what the higher college mathematics usually imparts, and oft-times a readiness in applying mechanical principles, of which many an engineer trained in the schools is utterly devoid, however prompt he may be in the routine to which he is accustomed.

The family training, aside from the inuring of children to patient industry, contributed greatly to their profiting from their school privileges. To do or not to do was not then left so generally to the child's pleasure. He was made to obey before he had experienced the delight of carrying into effect his own will in opposition to that of others; and thus was formed the habit of unquestioning compliance with the requirements of parents. When the child could understand the subject, he was taught that however irksome at times were the tasks imposed upon him, it was only in virtue of the allotment that man was to eat bread by the sweat of his brow, and that only by a cheerful performance of what was within his power could he make a return for the care he was continually receiving. Thus from a sense of religious and filial obligation the rigor of their early disci-

pline was the more easily sustained. Self-control and a certain measure of self-reliance were results of the discipline of infancy even; and in advancing childhood it was inculcated in the house and in the field, that each must depend upon himself for whatever he was to be and to possess in life. And knowledge, knowledge that was not the mere blind recipient of instruction, intelligent knowledge which perceived relations, and reasoning knowledge which could make the practical application as opportunity served, was set forth as the condition indispensable to render exertion successful. Hence it was a prized privilege to go to school, as well as a pleasant exchange for physical toil for a brief period, an exchange of work at home for another variety of work in the school-room, not of one manner of busy idleness and mischief for another. Also in many cases the home was itself a school, and either that knowledge was there gained which others acquired at school, or study was further pursued under the guidance of parent, or brother or sister, who by some happy gift of Providence had required little tuition. Often also, winter evenings or other hours, when the labor of one pair of hands might be spared, were passed in the social reading of instructive books.

The listening every seventh day to two discourses, wherein were discussed the deepest theories which can be proposed to man, may be named as an additional item in the answer to our inquiry. The clergymen of that day had received the best education that the country afforded, and were daily cultivating intimacy with the profoundest theologians. Thus they had ever thoughts which they had originated or had made their own to present. And these thoughts were inwardly digested by a goodly number of their hearers, and becoming a part of their being, they too

"reasoned high
Of Providence, foreknowledge, will and fate,
Fixed fate, free will, foreknowledge absolute;"

and if they "found no end," they were not "in wandering mazes lost," for, unlike the lost angels, they ruled their discussions by the infallible word of inspiration. It cannot be said that serious thought then bored, or that the sparkle of the unsubstantial poem chiefly drew, or that triviality was the characteristic of the multitude.

The study of one book, and that the Bible, simple enough in parts to meet the under-

standing of the little child, and of interest enough to absorb his attention, and in other parts of depths which no finite intellect can sound, and everywhere wise above the wisdom of men, and without any alloy of error, was one of the most efficacious means of raising the mass of the people in intelligence, and in educating a few, who made it their constant meditation, to a nicety of discrimination and a profundity of thought truly wonderful. Take as an example one silvery haired man whose memory is cherished with veneration. His school privileges had been less even than the scanty amount of most of his contemporaries, hardly amounting to three winter schools in all. Moreover, weakness of the eyes almost cut him off from reading books and papers throughout his life. But he was able to read daily a few verses, sometimes several chapters, in his large quarto Bible, and when he read aloud, all untaught as he was, he read with a naturalness and gave the sense, so that the hearer marvelled. Comparing scripture with scripture, he had attained to a skill in interpreting which seldom erred. His quickness in detecting a fallacy or in observing a doctrine which harmonized not with the living oracles was surpassed by very few of even the most highly educated of schoolmen. He was exceedingly retiring, but to the few who knew him, his life and his language seemed as correct as the words of that book on which both, with perfect naturalness, without any tinge of formality or quaintness, were modeled. Who will venture to say that this man's education was not incomparably superior to that of him who has delved a whole life in conflicting systems, who has sought to know the thoughts of all reported as great, but who has settled nothing for himself?

The political principles which found their expression in the declaration of independence, and which were a cherished inheritance from the fathers, leading to a general participation in the government of the country, and producing the habit of earnestly debating every question of public concern, had no small share of influence in exciting intensity and energy of mental action. By the fireside, in the field, at the corners of the streets, in the shops and stores, those powers were developed which had further exercise in the town meeting, and carried their possessor to some humble position of trust or authority; and when here trained and

shown to be capable of sustaining higher responsibilities, advanced him again, so that he who had forged iron chains, was chosen to fashion the more efficacious restraints of laws; he who had occupied the cobbler's seat, was promoted to the bench of justice; and he who had been wont to rule oxen was thought worthy to govern men.

The newspaper, and the family, and the village library contributed largely to the general intelligence. The weekly paper furnished no small part of the topics of conversation in the family and among neighbors, and, in particular, supplied the pabulum for political discussions. The few books owned or borrowed were carefully read again and again. The small proprietary libraries furnished some of the most valuable histories and the choicest works in belles-lettres. It was not of rare occurrence to find persons who showed familiarity with Rollin, Ferguson, Gibbon, Robertson, and Hume; and sometimes one might even be met, who could give an orderly account of an entire work of these authors; and there were many who could repeat favorite poems, peradventure even the entire *Night Thoughts* of Dr. Young, if that was the chosen *vade mecum*. Even some children of twelve or fifteen years of age,—barefoot boys who had only "noonings" and the time they might gain by manual dexterity in accomplishing their "stents,"—had perused several of the voluminous historians named above. How will such lads compare in mental strength and vigor with children who willingly read nothing but the most exciting tales or the most intellectual pap made toothsome?

The observation of men and of nature, pursued to good advantage where no unbending usages restrained free development of character, no wrappings of conventionalities gave a uniform semblance to all, where the woods and the waters and the inhabitants thereof had only begun to recognize the dominion of man, quickened too by the necessity of turning to account every item of knowledge that could be gained, was an ample equivalent for the more comprehensive speculations of mental philosophy and the scientific nomenclatures and descriptions of natural history to be learned from the mouth of the lecturer.

Finally, those defective schools of the past generation did place the key of knowledge in the hands of the inquisitive; which is nearly all that the schools can now do.

CHAPTER IV.

PROGRESSIVE DEVELOPMENT OF SCHOOLS
AND OTHER INSTITUTIONS OF PUBLIC
INSTRUCTION.

INTRODUCTION.

By common or public schools in this chapter is understood that grade or class of educational institutions which the State provides or secures for all its children, in the rural districts as well as in the crowded city, wherever a human being is to be found on its territory capable of receiving that formal instruction which is essential to the healthy physical, moral, and intellectual growth of each individual, and to the attainment of that amount of knowledge which the performance of every day business and the universal duties of citizenship require. It is common, because it is the debt which the community owes to every citizen for their good and its security. It is public, because it is established by the State through agencies of its appointment or providing, conducted according to the rules of its prescribing or authorization, supported by funds protected or furnished by its legislation, accessible to all pupils upon terms of equality, and subject to such inspection as the law may institute. It is not necessarily gratuitous; it may be free or cheap—but it can not be common if the cost is beyond the reach of the poorest. Although public, it is not beyond legal control. It is everywhere subject to such limitations as to age, attendance, studies, books, and teachers as the State may prescribe; and it must exist by force of law, general or special, and be managed by agents who have their authority direct or indirect from legal provisions, and its privileges must be open to all children on equal terms. It is no longer limited in its range of instruction to the few elementary studies, or to mere children. Studies which formerly belonged to the academy or college are now parts of the curriculum in the higher classes or grades of the common school, especially in cities and large villages.

Although originating at different times, and projected after different models, and modified by differing conditions of nationality, occupation, and religious opinions or practices, the American Common or Public School, however widely separated in territory, is now subjected to common social and political influences, and is fast approximating

to a common organization, and to similar, and almost identical systems of administration, instruction and discipline. It is doubtful if the institution attains its highest efficiency and broadest usefulness, by this legal uniformity. Large bodies of children will be thrown out of its influence altogether; bitter antagonisms between bodies of citizens will be engendered; and the teaching power of the schools will not find that field and stimulus for individual expansion and original methods and special adaptations, which greater liberty of instruction, and more diversified preparation and administration would create. It is not impossible that the recent rapid approach to uniformity in organization, administration, instruction and discipline, will be arrested and modified by the independent action of State and city systems, as soon as each becomes again more subject to peculiar local influences.

The constitutional provision of any State is indicative only of the policy of a comparatively few men on the subject of schools and education, and is mainly serviceable in protecting funds specially appropriated to these purposes from being devoted to other objects, and in giving the friends of these interests a firm ground to stand on in their advocacy of the same. The constitutions and school acts since 1865 in the States recently engaged in the rebellion, and prostrated in its suppression, have been adopted for the protection of the enfranchised colored population, and are not in harmony with the former habits and present convictions of a large majority of the old voters. It will take years before this great interest of schools and education can get adjusted to the new relations of parties, and firmly established in the habits of society.

We shall now proceed to give a comprehensive survey of the progressive development of Common or Public schools in each State, and at the same time indicate at least statistically, the condition of the State in respect to other educational institutions and agencies. For convenience of reference we shall present the States in their alphabetical order and not in the more logical order of the chronological establishment and development of schools in the same. To appreciate the greater or less rapidity and efficiency of the movement we shall indicate the date of settlement, the organization of the government, the growth of population, and the resources of each State, and the latest statistical results.

I. ELEMENTARY INSTRUCTION.

ALABAMA.

Alabama belonged to the State of Georgia till 1802, when by cession it became part of the Territory of Mississippi until 1817, when it was organized as an independent Territory, and admitted a State in 1819, with a population in 1820, 127,901; which had increased in 1870 to 996,992, (475,510 colored); on an area of 50,722 square miles; and taxable property to the value of \$157,770,387.

The earliest constitution of Alabama (1819) ordains that 'schools and the means of education shall forever be encouraged,' and the General Assembly is directed to protect (1,) the land grants of the United States for the use of schools within each township; and (2,) the Seminary lands 'for a State university for the promotion of the arts, literature and science.'

The Constitution of 1867 ordains the appointment of a Superintendent of Public Instruction,—elected at the same time and in the same manner as the Governor, and of a Board of Education, consisting of the Superintendent and the Governor *ex-officio*, and two members elected for a term of four years, for each Congressional District. The Board of Education is declared a body corporate and politic, 'with full legislative powers in reference to the public educational institutions of the State, and its acts when approved by the Governor, or when reenacted by two-thirds of the Board in case of his disapproval, shall have the effect of law, unless repealed by the General Assembly.' This Board of Education is constituted a Board of Regents for the State University, and when sitting as such, has power to appoint the president and faculty. Of the Board of Regents, the president of the University is, *ex-officio*, a member for consultation. To the support of public schools the constitution continues the appropriation of all lands and other property donated to the State by the United States and individuals for educational purposes, and one-fifth of the aggregate annual revenue of the State, and of any specific tax which the General Assembly may levy upon all railroad, navigation, banking and insurance companies, foreign or domestic, doing business in the State.

The peculiar legislative and administrative school authorities provided by the State in

the constitution of 1867, has not had thus far, a favorable field, or sufficient time to develop its legitimate results. The attempts to establish an efficient system of public schools, based on the original U. S. township land grants (16th section), by ordinary legislation, from the first State law of 1823 down to 1854, had entirely failed. In the year last named, to give efficiency to previous laws, a State Superintendent was appointed, additional resources were provided by setting aside the income of the U. S. Surplus Revenue fund deposited with the State, and the avails of certain swamp lands, and a direct appropriation of \$100,000 out of the aggregate annual State tax. Under the active labors and legislative reports of the Superintendent, the holding of Teachers' Institutes, the meetings of a State Educational Association, the circulation of monthly issues of an Educational Journal, an intelligent public opinion was being created, and school officers were being educated to their work, when the war of Secession arrested the work of peace. The annihilation of all personal property, and the revolution of the old social and industrial system of the South which followed, has left a *debris* to be cleared away before any general system of education adapted to the new order of society can be organized and put in efficient operation.

Under the legislative authority vested by the constitution in the Board of Education, and under the administration of a Superintendent of Public Schools, elected by the people for four years, a system has been instituted which in most of its features corresponds to that which was growing up out of the legislation of 1854, and for its support the superintendent in his report for 1871 estimates that the sum of \$700,000 will be available in 1872.

To assist the reorganization of public schools in Mobile, Montgomery, Selma, Huntsville, La Fayette, Girard, and Columbiana, aid was extended by the agent of the Peabody Fund to the extent of about \$5,000 in 1871.

The census of 1870 returned 77,139 in school attendance, out of 342,976 of the school age (5 to 18 years); and 349,771 persons over 10 years who could not read, and 383,012 who could not write. Out of 2,969 schools of all kinds, with 75,866 pupils, 57 are returned as classical colleges and academies, with 3,218 pupils, and 2,812 public schools, with 67,000 pupils.

ARKANSAS.

POPULATION—In 1840, 97,574; in 1870, 484,471—*race*, 362,115 *w.*; 122,169 *c.* AREA—52,198 sq. m.; *persons to s. m.*, 9.30; families, 96,135; *pers. to fam.*, 5.04; dwellings, 98,195; *per. to dw.*, 5.20; persons between 5 and 18, 84,645 *m.*, 80,815 *f.* Taxable property, \$94,168,843.

Arkansas was organized a Territory in March, 1819, and admitted a State in 1836.

The constitution of 1836 ordains that the General Assembly, in consideration that 'knowledge and learning generally diffused throughout a community are essential to the preservation of a free government,' shall provide by law for the school lands, and 'encourage intellectual, scientific and agricultural improvements.' The State received 886,460 acres of land for common schools, and 46,080 for a university, but the legislature did not come up to the above requirements of the above fundamental ordinance, and no serious, or at least no successful attempt was ever made to inaugurate a system of public schools. In 1854 the Secretary of the State, who was *ex-officio*, State Commissioner of Common Schools, reported only 40 public schools, and complains of 'the indifference that pervades the public mind on the subject of education.' Owing to this indifference, and fraudulent and defective legislation, the munificent land grants of the general government have been squandered, and the permanent school fund from these sources in 1870 was \$35,192, instead of \$2,000,000 or \$3,000,000, as might have been realized under honest and judicious management.

The constitution of 1868 ordains that 'the General Assembly shall establish and maintain a system of free schools for the gratuitous instruction of all persons in the State between the ages of five and twenty-one years, and for their supervision, 'a superintendent and such other officers as may be necessary, shall be appointed.' A State university, 'with departments for instruction in teaching, in agriculture and the natural sciences shall also be established and maintained.' 'To support these institutions, the proceeds of all school lands and other property before donated, or which may be donated to the State for educational purposes, shall constitute a School Fund, the annual income of which, together with one dollar *per capita* annually assessed on every male inhabitant over the age of 21 years, and so much more of the ordinary annual revenue of the State as shall be found necessary, shall be faithfully appropriated to the free schools and universities, and to no other purpose whatever.'

In view of these provisions, a school system was established in 1869, the authorities of which are: (1,) a State Superintendent, elected every four years; (2,) a Circuit Superintendent, appointed by the Governor for each judicial district, of which there are ten; (3,) a State Board of Education, composed of the State and Circuit Superintendents; (4,) a single trustee for each school district, and (5,) a city Superintendent for each incorporated city. The Circuit Superintendent gives his entire time to the interests of the schools, holds a Teachers' Institute in his district every year, examines all candidates for the office of public school teacher, and issues three grades of certificates—the first of which is valid in his district for 2 years, the second for 1 year, and the third for 6 months.

The report of the Superintendent to the Governor at the close of 1870, made a very fair exhibit of schools, teachers and expenditures compared with any thing before published. In the two years 1869 and 1870, 657 new school-houses have been built, making in all 1,289; of 182,474 children (white and colored) between the ages of 5 and 21, 107,908 have attended school of some kind; 2,537 schools had been taught by 2,302 teachers, of whom 944 attended the 41 Teachers' Institutes which had been held. The entire sum expended for the public schools was \$583,844, of which \$334,952 was from direct tax.

The *Arkansas Journal of Education* was established in 1870, and made the organ of the State Board in 1871. A State Teachers' Association was organized in 1869, and has held three annual meetings. The Peabody Fund furnished aid in 1870 to the amount of \$9,450.

The National census for 1870 returns 1,978 schools of all kinds, under 3,008 teachers, of whom 992 were females. Of these schools 1,744 are public, with 1,966 teachers and 72,004 pupils. Under the head of classical, professional and technical institutions, there are 8 colleges (*so-called*), 46 academies, 1 school of theology, 1 of medicine and one for the blind and deaf mutes.

These statistics returned for some States would be significant, but names are not things, or at least schools, in the light which official reports throw on their actual condition in Arkansas, especially when the same census returns 111,799 persons over 10 years old who can not read, and 133,339 who can not write.

CALIFORNIA.

POPULATION in 1850, 92,597; in 1870, 560,247; *race*, 499,424 *w.* and 4,272 *c.* AREA, 198,181 *sq. m.*; persons, 2.29 to *sq. m.*; families, 128,752; *persons to a fam.*, 4.35; dwellings, 126,307; *pers. to a dw.*, 4.44; persons 5 to 18, 71,086 *m.*, 66,043 *f.* Taxable property, \$269,644,068.

California was settled by the Spanish as early as 1769, and became part of the territory of the United States by treaty with Wisconsin in 1848, and was admitted into the Union in 1850.

The constitution of 1849 provides for the election by the people of a superintendent of public instruction, and enjoins on the legislature 'the establishment of a system of common schools, by which a school shall be kept in each district at least three months in each year,' and deprives each district which neglects to do so, of its share in the interest of the public fund during such neglect. The proceeds of all lands donated by the United States Government for school or university purposes, including 500,000 acres donated for internal improvements, are to be set aside inviolably and without diminution for such purposes and no other. Under this injunction and wise legislative counsels, a system of public schools was at once established, and within the last ten years has been developed into proportions and efficiency, especially in the large towns, which may challenge comparison with any in the country. Without noticing the successive enactments, many of them important, by which the system was developed, we find in the constitution, and revised school law of 1866 the following features:

1. A State Superintendent, elected for a term of four years by the people.

2. A State Board of Education, consisting of the Governor, the State Superintendent, the Principal of the State Normal School, the Superintendent of the city and county of San Francisco, and of the respective counties of Sacramento, Santa Clara and San Joaquin, and two professional teachers holding State certificates of competency and experience, nominated by the State Superintendent and elected by the Board. To this Board is assigned the duty of 'adopting a course of study, and rules and regulations for all public schools, to prescribe a uniform system of textbooks, and a list of books suitable for school libraries, to grant diplomas to teachers and regulate their examinations.'

3. A County Superintendent for each county, elected at the general election, to hold office for two years, who must visit all

the schools in his county at least once a year, distribute and see to the enforcement of all regulations and circulars of the State Board, hold Teachers' Institutes, keep on file the State Educational Journal, and all printed reports and documents of the Superintendent, and all reports of school officers and teachers, as well as an official record of his own doings and of the county board of examination, on the penalty of a forfeiture of \$100 from his official salary in case of failure.

4. Three trustees for each school district, one elected each year and holding office for three years, to whom the local management of the school, as to teachers, books and school-houses belongs, subject to the regulations of the State and county officers.

The law provides for a State Normal School, Teachers' Institutes, and State and County Boards of Examination composed of teachers, exclusively. It also deals specifically with many points which are left doubtful or discretionary in other States, such as: a gradation of schools into primary, grammar and high; a limitation of school hours for children under eight years to four hours, and for all schools to six hours, a school month to twenty school days, or four weeks of five school days; making the parents of pupils liable for damages to school property of any kind; making profanity and vulgarity good cause for suspension, and continued willful disobedience and open defiance of the teacher's authority, good cause for expulsion; exempting all teachers from professional employment on days as may be declared public holidays, State or national; the necessity of teachers attending the Institute for their county, and of the State Superintendent subscribing for a copy of an Educational Journal in which the official circulars, decisions and laws relating to schools are published, for each county and city and district officer. Teachers are enjoined 'to instruct their pupils in the principles of morality, justice, and patriotism, and to train them up to a true comprehension of the rights, duties, and dignity of American citizenship.'

According to the official reports, there were in 1870, 1,354 public schools, under 1,687 teachers (961 females), maintained at a total expenditure of \$1,290,585, of which \$847,229 was raised by tax. The productive capital of the school fund is \$2,000,000.

The census of 1870 returned 24,877 persons over 10 years old who could not read, and 312,716 who could not write.

CONNECTICUT.

Connecticut on becoming a State continued the educational policy commenced in the colonial law of 1650, and much earlier in the original towns, which composed both the colonies of Connecticut and New Haven—in all of which schools were instituted within *one year* after the first settlements were made. At the beginning of this century the system of public instruction embraced (1.) a common school in every neighborhood where at least twelve children could be gathered for elementary instruction; (2.) an endowed grammar school, or incorporated academy, in the county town, or one or more private schools for classical instruction in all the large parishes of the State; (3.) a college for superior instruction at New Haven, with special reference to the ministry, and the ‘learned professions’ of law and medicine. The common school authorities were: (1.) a school committee (of three persons) for each school society (which corresponded to the parish—and of which there was one or more for each town,) which looked after the financial affairs; (2.) a district committee, appointed by the society, for each district, to employ the teacher and look after the local matters; and (3.) school visitors, (of which the clergyman was always a member) whose business it was to visit the schools and certify to the competency of the teachers.

The State exercised its direct authority in the supervision of the common schools for the first time in 1838, when, under the lead of Henry Barnard, a member of the Legislature from Hartford, a State Board, entitled Commissioners of Education, was instituted, with a secretary as its executive officer. The duties of the board were mainly to collect and disseminate information and awaken public interest in behalf of the schools, and the means of popular education generally. Out of the action of that board, and of the Massachusetts Board of Education established in 1837, have been developed the measures of educational reform and the systems of public instruction which now exist in every one of the United States.

I. The system of Common Schools in Connecticut is administered by (1.) State Board of Education, composed of the Governor, Lieut. Governor, and four persons, one from each Congressional district, and charged with the general supervision and control of the educational interests of the

State, with special power to prescribe what books shall be used, but not to require any book to be changed oftener than once in five years; to prescribe the form of all school reports; to establish and manage a State Normal School, and hold conventions of teachers; and to appoint a secretary, whose business it is made to exercise a general supervision over the public schools, to visit different parts of the State for the purpose of awakening and guiding public sentiment in relation to the practical interests of education, to collect school-books, apparatus, maps, and charts as can be obtained without expense to the State, and to report annually to the board on the condition of Normal schools and other public schools of the State.

(2.) A Board of School Visitors for each town, of six or nine members, as the town may determine, who prescribe regulations for the management, studies, classification, and discipline of the public schools; examine candidates and issue certificates of qualifications to such as they find qualified. If authorized by the towns, this board may employ the teachers for the schools; visit the schools through one or more of their members, called an acting visitor or visitors; and report to the town and the board annually, and when required.

(3.) A committee of each district, charged with all matters of local management, unless the same shall have been transferred by the town to the school visitors.

The law designates certain branches in which the teachers must be found qualified to teach, and which any parent may require his child, if properly qualified, to receive instruction, viz., reading, writing, arithmetic, and grammar thoroughly, and the rudiments of geography, history, and drawing.

From the year 1650, it has been made by law the duty of all parents and guardians of children ‘to bring them up in some honest and lawful calling, and to cause them to be instructed,’ originally ‘to read the Holy Word of God and other good laws of the colony,’ but by existing statute ‘in reading, writing, English grammar, geography and arithmetic.’ By the existing law, ‘any child between the ages of 8 and 14 must attend some school, public or private, or be instructed at home, at least three months in each year, unless the physical or mental condition renders such instruction inexpedient. And no child under 14 can be employed to labor in any business, whatever,

unless he has attended school three months out of the twelve preceding, under a penalty of \$100 for each offense. Each city or town may make all needful regulations concerning habitual truants from school, or children under 16 years of age found loitering during school hours, with prescribed modes for their arrest, penalties, and for repeated convictions, their sentence to the State Reform School, and in case of girls, to the Girls' Industrial School. To carry out these provisions relative to children engaged in factory labor, the State Board appoint an agent who visits the localities, confers with employers and teachers, and thus, without actually appealing to penalties, secure the enforcement of the law. But the statistics of the Secretary's report for 1872, and the national census of 1870, show that the aim of the law—universal school attendance, and universal elementary instruction at home or at school, are not now reached. The census shows that there were 29,616 persons over 10 years old, of all races, who were returned as illiterate—over 19,000 who could not read, and over 29,000 who could not write. Of the 29,616 thus returned, 27,913 were white, and of these 5,678 were native born. Out of 131,748 persons over 4 and under 16 years of age in January, 1872, only 83,095 were registered as scholars in public schools in the summer of 1872, and 94,408 in the winter of 1872. If to these we add 8,754 in private schools, it leaves 11,947 not in any school, public or private.

In 1871, there were 166 towns; 1,535 school districts, with 1,630 schools, classified into 2,290 departments, under 2,420 teachers (2,194 females), of whom 595 had not taught before; the State School Fund, \$2,048,375; Town Deposit Fund, \$763,661; Local School Fund, \$150,000; valuation of taxable property, \$322,553,488. The income in 1871 was, from permanent funds, \$183,262; from town and district taxation, \$1,052,545; from rate-bills, \$267,809,—total \$1,503,617.

The educational institutions of the State in 1872 consisted of (1,) 1,630 common schools; 100 academies, seminaries, and high schools of secondary instruction; 3 colleges, 8 professional and special schools, 1 teaching, 3 theology, 1 law, 1 medicine, 1 science applied to engineering, agriculture, and architecture, 1 art—industrial and ideal, 1 deaf mute, 1 imbecile, and 290 private schools of every grade and aim.

DELAWARE.

Delaware was the first State to ratify the Federal Constitution (1789), and one of the earliest to ordain by constitution (1792) that 'the Legislature shall, as soon as conveniently may be, provide by law for establishing schools and promoting arts and sciences.' But the act of 1796 'to create a fund sufficient to establish schools,' and all subsequent acts of 1797, 1816, 1817, 1821, 'to increase the fund or pay the tuition of poor children,' or of 1829 'to provide for free schools,' or of 1830 and 1832, 1833 and 1835 supplementary and additional thereto, or of 1837 appropriating the income of the U. S. Surplus Revenue Fund for the benefit of the school districts, and all subsequent acts (1852, 1857, 1858, 1861) have failed to go to the root of the matter by making it obligatory on the towns or hundreds to establish and maintain public schools, not for the poor, but for all classes, and to raise by tax on the taxable property of such town or hundred, a minimum sum for the support of such schools, and then subjecting teachers to an examination, and the schools to regular visitation, by a committee responsible to the State and to the local community for the performance of their duties. From this general remark should be excepted the city of Wilmington, in which a system of public schools has been maintained under a special act of the Legislature, by which the school interest is committed to a board elected by the citizens, with power to establish schools and provide money for their support, by requisition on the city authorities. Down to 1872, no provision was made by the State for education of the colored children, but by the aid of citizens, and the Freedmen's Bureau, 29 schools were maintained with 2,104 pupils at an expense of \$11,000.

According to the national census of 1870, out of a school population (5 to 18 years of age) of 40,807, only 19,965 were returned at school in the year previous, and out of the total population (125,015), 19,356 persons over 10 years could not read, and 23,100 could not write. According to the same census there were 326 public schools under 388 teachers, with 17,835 pupils; 9 academic institutions under 63 teachers and 859 pupils (including 2 classed as colleges with 15 teachers, of whom 8 are females, and 137 pupils, of whom 120 are females; and 38 private and parochial schools, with 59 teachers and 1,881 pupils.

FLORIDA.

Florida was admitted into the United States in 1845, although settled earlier than other portions of the Union. Although the Constitution adopted in 1839, and that of 1865 throw their protection around lands granted 'for the use of schools and seminaries of learning,' not much seems yet to have come of the lands (amounting to over 1,000,000 acres), or to have been done for schools, until under the act of Jan. 30, 1869, by which (1,) a Superintendent of Public Instruction is appointed for the State, and (2,) County Superintendents for each.

According to the national census of 1870, out of a school population (5 to 18 years of age) of 63,807, 12,778 were returned as attending school in the year previous. Of this number, 8,254 were white and 4,524 colored. Out of the entire population (187,748), 66,238 persons over 10 years of age could not read, and 71,803 could not write, with taxable property to the valuation of \$32,480,843, and school lands yet undisposed of. A better exhibit may be anticipated in 1880 over 1870, when the census returned 377 public schools, with 14,000 pupils; 10 academies, with 580 pupils, and 141 private schools, with 1,500 pupils.

GEORGIA.

Georgia was one of the earliest to assert in its fundamental law (Constitution of 1777), that 'schools shall be erected in each county, and supported at the general expense of the State,' and to make liberal appropriations to endow seminaries of learning. In 1783 the legislature donated 1,000 acres of land to each county for the support of free schools, and in the year following, 40,000 acres for the endowment of a university, and in 1792, one thousand pounds for the endowment of an academy in each county. In the preamble of the charter creating the University of Georgia in 1785, are these words: 'as it is the distinguishing happiness of free governments that civil order should be the result of choice, and not necessity, and that the common wishes of the people become the laws of the land, their public prosperity and even existence depend very much on suitably forming the minds and morals of their citizens. * * * It should be among the first objects of those who wish well to the national prosperity, to support the principles of religion and morality, and early to place the youth under the forming hand of society,

that by instruction they may be molded to the love of virtue and good order. Sending them abroad to other countries for an education will not answer.' To give effect to the last suggestion, in the same year it was enacted that 'if any person or persons under the age of sixteen years, shall, after the passage of this act, be sent abroad without the limits of the United States, and reside there three years for the purpose of receiving an education under a foreign power, such person or persons, after their return to this State, shall for three years be considered and treated as aliens, in so far as not to be eligible to a seat in the legislature or executive authority, or to hold any office, civil or military, in the State for that term, and so in proportion for any greater number of years as he or they shall be absent as aforesaid.' The Legislature at this period was in earnest, and comprehensive in its educational policy. In spite of numerous laws and liberal appropriations designed to provide free elementary instruction for the poor, to establish at least one endowed academy in each county, and a university for higher and professional learning for the whole State, the hindrances incident to a new country, with its productive resources not developed, to a population settled and settling not in villages or groups, but in independent and isolated plantations, and more than all, to a radically unrepubli- can constitution of society, these laws failed to accomplish their beneficent objects. The provisions of the amended Constitution of 1798, reordained in that of 1839, that 'the arts and sciences shall be promoted,' and 'the General Assembly shall provide effectual measures' for elementary as well as higher institutes, did not establish free schools, provide competent teachers, awaken public interest, or keep the legislature informed of the exact state of education in different parts of the State. The national census of 1840, while it showed the existence of 11 colleges (so designated) with 622 students, and 176 academies with 7,878, and only 601 primary schools with 15,561 pupils, for a white population of over 400,000, of whom 30,717 persons (increased to 42,000 in 1850,) over 20 years of age were returned unable to read and write. In 1843, and again in 1854 and 1856, after a personal visit of the writer of this article, and correspondence with prominent citizens, a plan was devised to create a system of common schools, open alike to rich and poor, supported by public tax, State

and local, and administered by district, county and State commissioners. The plan met with favor in the legislature both in 1854 and 1856, but failed in spite of the eloquent appeal of Hon. W. H. Stiles, Speaker of the House, 'Let us, by the passage of this bill, inaugurate a system of common schools in Georgia. In the name and in behalf of 150,000 Georgians, between 5 and 20 years of age, who are growing up in ignorance of the duties and relations of civilized life, I demand it. In the name of 42,000 of my countrymen, over the age of 20 years, who are daily hurrying to the grave without being able to read for themselves the way of eternal life, I demand it. In the name and in behalf of the whole State, which we proudly call the 'Empire State of the South,' I demand it. And in what, pray, does her empire consist? In lands and tenements, in fields and stocks, in railroads and copper mines, but not in that which exceeds them all, in cultivated intellect. It is an empire of matter, and not of mind, of darkness and not of light. Enlighten this darkness, efface from her escutcheon that foul blot of illiteracy which the census discloses, or never call her again the Empire State.' The census of 1870 disclosed a progressive increase of illiteracy; the events of the war, having added the entire black race at once to the number of citizens, and the ranks of the illiterate, making 468,593 persons over 10 years of age who could not read.

In 1870 a school system was established, with the following school authorities:

(1.) A State Board of Education, consisting of the Governor and other State officers, acting through a State School Commissioner. To this Board is given the apportionment of any State appropriation, and supervision.

(2.) A County Board of Education, consisting of a member for each militia district. By this Board a County School Commissioner is elected, who thus becomes a member, and its secretary. To this Board belongs the examination of teachers, the inspection of schools, and the imposition of a tax.

(3.) School Trustees for each militia district, which has been made a school district. This Board manages the school, and reports to the County Commissioner.

(4.) The city school authorities of Augusta, Columbia and Savannah, instituted by special acts, by which graded systems of public schools are established for the respective cities and the counties of which they form part.

ILLINOIS.

Illinois became one of the United States Dec. 3, 1818, with a population in 1820 of 55,211, which had increased in 1870 to 1,680,637. By an ordinance dated Aug. 26, 1818, the convention which framed the State Constitution accepted a proposition contained in act of Congress passed April 18, 1818, as a condition precedent of the admission of the people of the Illinois Territory, and to be obligatory upon the United States, viz., 'That section numbered 16 in every township shall be granted to the State for the use of the inhabitants of said township for the use of schools; that five per cent. of the net proceeds of public lands within the State and sold by Congress after the first day of January, 1819, shall be reserved for the following purposes, viz., two-fifths for making roads leading to the State, and the residue shall be appropriated by the Legislature of the State for the encouragement of learning, of which one-sixth part shall be exclusively bestowed on a college or university.' 'That 36 sections, or one entire township, to be designated by the President of the United States, together with the one heretofore reserved for that purpose, shall be reserved for the use of a seminary of learning, and vested in the Legislature of said State to be appropriated solely to the use of such seminary.'

Much legislation has been had on the management of the funds growing out of the lease and sale of the lands thus donated, and the controversy over the possession of portions of the avails of the United States reservations paid over to the State has not ceased. The capital of these funds in 1871 was as follows: School Fund, \$613,363; College or University Fund, \$156,613; Seminary Fund, \$59,839; County School Fund, \$348,285; Congressional Township Fund, \$4,868,555; Surplus Revenue Fund, \$335,592;—*Total*, September 30th, 1872, \$6,382,248.

The first general school law was passed in 1825, 'to provide for the establishment of free schools,' with the following preamble: 'To enjoy our rights and liberties we must understand them; their security and protection ought to be the first object of a free people; and it is a well established fact that no nation has ever continued long in the enjoyment of civil and political freedom, which was not both virtuous and enlightened; and believing that the advancement

of literature always has been, and ever will be, the means of developing more fully the rights of man; that the mind of every citizen in the republic is the common property of society, and constitutes the basis of its strength and happiness; it is, therefore, considered the peculiar duty of a free government like ours, to encourage and extend the improvement and cultivation of the intellectual energies of the whole.'

The upward and onward movement of common schools in Illinois dates from the legislation of 1854, for which preparation had been made by long and persistent individual and associated labor. Among these should be mentioned the seven founders (particularly Baldwin, Turner, and Sturtevant,) of the Illinois College from 1829; the *Ladies' Association for Educating Females*, founded at Jacksonville in 1833; the *Illinois Institute of Education*, founded at Vandalia in the same year; the *Illinois State Educational Society*, founded at Springfield in 1841; the *Northwestern Educational Society*, begun in 1845; the *Industrial Education Conventions*, from 1851; the *Teachers' Association*, county-wise from 1845, and culminating in the State Associations in 1853; the publications of the *Common School Advocate* in 1837, the *Illinois School Advocate* in 1841, the *Prairie Farmer*, and *Illinois Teacher* in 1853.

In 1854 provision was made for the election by the people of a Superintendent of Public Instruction, to hold his office for two years, and whose whole time should be devoted to the supervision of the common schools, to conferences with teachers and school officers, to public addresses in the different counties, and to the advancement of public education generally. He was specifically required to make a report every year, and in the year following his election, to report to the Legislature by bill 'a system of free school education throughout the State, to be supported by a uniform *ad valorem* tax upon property to be assessed and collected as the state and county revenue is assessed and collected.'

In 1855 a bill for the thorough organization of the common schools was drawn up by the superintendent, the basis of which was the principle of state and local taxation for educational purposes, and a series of school officers for local and general administration to secure uniformity and efficiency in the schools. The bill became a law, and

under it were: (1,) A State Superintendent of Public Instruction, elected by the people. (2,) A School Commissioner for each county, elected by the township boards of education in that county. (3,) A Board of Education for each township. Provision was made for County School Conventions and Teachers' Institutes, and an examining committee for each county. No school could receive any portion of the state or local school moneys unless it had been kept for at least six months for the equal and free instruction of all persons. The law has been modified and revised from time to time, and the system of public instruction has been extended by the addition of new institutions until it has reached a high degree of efficiency in the School Law of 1872.

The State now requires and secures official returns from all institutions established, incorporated, or aided to any extent out of public funds, and of the school attendance of all its children and youth, and the causes of the neglect of any person growing up in illiteracy, either white or black. Provision is made to protect the public schools against the employment of incompetent persons as teachers, by providing a Normal University, teachers' institutes, teachers' associations, the advice and co-operation of school officers, and then the thorough examination by experts of all applicants in a range of specified studies as extensive as was ever before inserted in the qualifications of common school teachers, viz., orthography, reading in English, penmanship, arithmetic, English grammar, modern geography, the elements of natural science, the history of the United States, physiology, and the laws of health, which the law declares must be thoroughly and efficiently taught; vocal music and drawing may be insisted on when deemed expedient by the directors. And these studies may be extended at the discretion of the Board of Education in all large cities.

The school authorities are:

(1.) State Superintendent, elected by the people for a term of four years, who is the legal adviser of all school officers and teachers, and who must address the county superintendents by circular on all points touching the system, and the organization, instruction, and discipline of schools, and report annually to the Governor on the condition and improvement of the educational institutions of the State.

(2.) County Superintendent, elected by

the voters of each county to hold office for four years, who must visit at least once in each year every school in his county, and to note the method of instruction, the branches taught, the text-books used, and the discipline, government, and general condition of the schools. He shall give such directions in the science, art, and method of teaching as he may deem expedient and necessary, and shall be the official adviser and constant assistant of the school officers and teachers of his county, and shall faithfully carry out the advice and instructions of the State Superintendent. He shall encourage the formation and assist in the management of county teachers' institutes, and labor in every practicable way to elevate the standard of teaching, and improve the condition of the common schools of his county. In all controversies arising under the school law, his advice shall first be sought, and all appeals to the State Superintendent must be taken up on the statement of facts certified by him. In case of failure of any township officers to provide the authorized information and statistics, he can employ a competent person to examine all books and papers, and obtain and furnish the same.

(3.) Township Trustees for each township (one elected each year for a term of three year), who must secure an efficient school in each legally constituted district, for a period of six months in each year, and a High School for the winter term when so ordered by the town.

(4.) District Directors, one for each district, into which a township may be divided, who must, among other items, report the names of persons over 12 and under 21 residing in the district unable to read and write, and the causes of such neglect. To this office is committed the power of levying a tax on the property of the district to continue the school for not less than 5 or more than 9 months, and to excuse the attendance of children under 12 years for more than four hours each day.

In 1872 there were 11,156 common schools (9 high, 651 graded, and 10,414 ungraded,) with 672,782 pupils under 20,285 teachers (11,459 females), in 10,979 school-houses (cost, with ground and apparatus, \$18,373,880); 58 academies and colleges; 20 professional and special schools, 4 teaching, 2 law, 2 medicine, 2 agriculture, 1 blind, 1 deaf mute, 2 commercial, 1 art, and 700 private schools.

INDIANA.

Indiana was organized as a Territory in 1800, and admitted as a State in 1816, with a population in 1820 of 145,750, which in 1870 had increased to 1,680,637, with a valuation for taxable purposes of \$663,455,044.

The history of education in Indiana commences with the Act of Congress of 1804 providing for the sale of the public lands, which directed that the Secretary of the Treasury should select a township of land in several portions of the northwestern territory for the use of seminaries of learning, and that the section numbered sixteen in each and every township should be reserved for the use of schools. No application of these lands was, however, made until 1816, when Congress passed an ordinance to enable the people of the Indiana Territory to form a constitution and be admitted into the Union. That ordinance provided that one township of land, in addition to the one heretofore reserved, should be granted to the State of Indiana for the use of a seminary of learning, and that the sixteenth section in every township, and where that had been otherwise disposed of, other lands in lieu thereof should be granted for the use of schools. The proposition was accepted, and after the admission of the State of Indiana into the Union, a State University was established at Bloomington in Monroe county, and the proceeds of the sales of the two townships were directed to be funded, and the income thereof annually applied to the support of the institution.

The constitution of 1816 makes it the duty of the General Assembly 'to provide by law for a general system of education, ascending in regular gradation from township schools to a State University, where tuition shall be gratis and equally open to all.' This duty is reaffirmed in the constitution of 1851, with provision for the election of a superintendent, and a consolidation and enlargement of the Common School Fund, which is declared to consist of:

(1.) Congressional Township Fund and land; (2.) United States Surplus Revenue Fund; (3.) Saline Fund and land belonging thereto; (4.) Bank Tax Fund; (5.) County Seminaries' Fund, and fines assessed for breaches of the penal laws; (6.) Swamp Land Funds.

The aggregate of these funds in 1870 amounted to \$7,282,639, and the income

from the same to about \$400,000, which was increased by property and capitation tax to the sum of \$1,810,866.

The first school law was enacted in 1821, which underwent many revisions and modifications, without producing efficient schools, and leaving Indiana in 1840 behind most of the other States, and in 1840, according to the national census (out of a population of 988,416), there were 70,540 persons over 20 years of age who could not read or write, of whom less than 1,000 were returned as native born. Under the energetic appeals of 'One of the People' (*Prof. Caleb Mills of Wabash College*), addressed from year to year, from 1840 to 1848, to the people of Indiana, as a sort of supplement to the Governor's message, the Legislature was finally aroused to efficient action, and in 1848 an act to provide a system of free schools was passed. It having been left with the counties to repeal or adopt its provisions by popular vote for its respective townships, many counties adhered to the old defective system, but the Constitution of 1850, and the school law of 1855, brought up the legal requirements to a higher and a uniform state, and from that time the schools have been under agencies which have constantly improved the quality of the instruction given, although they have not prevented an alarming amount of illiteracy, viz., 76,634 persons over 10 years of age who could not read, and 187,124 who could not write, according to the census of 1870.

The system is now administered by: (1,) State Superintendent; (2,) State Board of Education, composed of State Superintendent, president of State University and State Normal School, and the superintendents of the three largest cities; (3,) County Commissioners, one for each of the 92 counties, who visit the schools of their respective townships, hold institutes, and appoint; (4,) District Superintendents, who hold office for three years, and examine all candidates for teaching; Township Trustees, who may, among other powers, introduce the study of the German language into any school where the parents or guardians of 25 children demand it.

In 1870, out of 619,627 children between the ages of 5 and 21, 462,527 attended in the 8,759 district and high schools (including 34 cities), taught by 11,846 teachers (4,722 females), and maintained at a cost of \$1,810,866.

IOWA.

Iowa was organized as a territory in 1838 and admitted into the Union in 1846, with an area of 55,045 sq. m., and a population in 1850 of 192,214, which has increased to 1,191,792 in 1870, with taxable property valued at \$302,515,418. The constitution of 1846 provides for the inviolability of the school and university funds, and the election by the people of a superintendent of public instruction, to hold his office for three years, directs the General Assembly to encourage intellectual, scientific, moral and agricultural improvements, and provide a system of common schools, by which a school shall be kept up and supported in each school district at least three months in every year. The amended constitution of 1857 goes into much detail, respecting the powers of a 'Board of Education for the State of Iowa,' to which was given 'full power to legislate and make all needful rules and regulations in relation to common schools, and other educational institutions aided from the school or university funds, subject to the revision and repeal of the General Assembly.' Power was reserved to the General Assembly to abolish or reorganize the Board of Education at any time after 1863, and provide for the educational interests of the State in such manner as shall seem to them best and proper. The action of the Board, instituted according to the provisions of this constitution, did not prove acceptable to the people, and in 1864 the school system as established by them was reorganized by the General Assembly.

By the act of 1863 and its subsequent amendments the school authorities are: (1,) State Superintendent, elected by the people for two years; (2,) County Superintendents, one for each county, elected for two years; (3,) Township Board of Directors, made up of three or more sub-directors for each township, who have the management of the township school fund; and (4,) Sub-director for each sub-district, for the local management of the school.

According to the report of 1871, there were 1,260 district townships, 344 independent districts (cities and villages), and 7,716 sub-districts, with 7,823 schools, of which 289 are graded, in which are 40 high schools; out of 460,629 school population (between 5 and 21 years) 341,938 attended school during the year, under 14,070 different teachers, at an aggregate salary of

\$1,900,893, in 7,594 school-houses, erected at a cost of \$6,764,551, in which was school apparatus to the value of \$104,359. In 1871, 7,500 teachers met in 76 teachers' institutes. There are two School Journals and a State Teachers' Association.

According to the national census in 1870 there were 217,554 persons of all ages in 7,496 schools, of which there were 1 normal, 37 high, 41 grammar, 294 graded, and 6,949 ungraded common schools; 1 university, with 23 professors, and 403 pupils; 21 classical colleges, and 34 academies, and 5,200 pupils; 1 school of law, 1 of medicine, and 4 of theology, with 209 pupils; 10 special schools, with 850 pupils; (1 agricultural, 5 commercial, 1 blind, 1 deaf mutes, 2 music); 103 private schools, with 5,300 pupils; and 24,115 persons over 10 could not read, and 45,671 (24,979 natives) could not write.

The school fund amounts to \$3,174,578.

KANSAS.

Kansas organized as a Territory in 1854, was after many tribulations, admitted as a State in 1859, with an area of 91,318 sq. m., and a population in 1860 of 107,206, which had increased in 1870 to 364,399, and a taxable property of \$92,125,861. Total value of farms and live stock in 1870 was \$126,992,538.

The constitution adopted in 1858, provides for a superintendent of public instruction for the State, and one for each county, and directs the legislature to 'encourage the promotion of intellectual, moral, scientific and agricultural improvement by establishing a uniform system of common schools, and schools of higher grade, embracing normal, preparatory, collegiate and university departments.' 'The proceeds of lands donated by the United States or the State for the support of schools, and the 500,000 acres granted to the new State in 1841, and all estates of persons dying without heirs or will, and such per cent. as may be granted by Congress on the sale of lands in this State are made a perpetual school fund, which shall not be diminished, the interest of which with such other means as the legislature may furnish by tax or otherwise, shall be inviolably appropriated to the support of common schools.' 'Provision shall be made by law for a State University for the promotion of literature and the arts and sciences, including a normal and agricultural department,' and 'no religious sect or sects shall ever control any part

of the common school or university funds of the State.'

Schools are organized on the basis of cities (incorporated by general law), and of the congressional township distribution of territory. Each city by general law has a board of education somewhat differently constituted, but all with full powers to establish and maintain public schools according to its population, while each congressional township, embracing an area of six miles square, is constituted one school district. Each district is divided into sub-districts of any convenient size, by the county superintendent. Each sub-district elects a director, and all the directors of sub-districts constitute a school district board for the township, with power to levy taxes, locate, and erect school-houses, employ teachers for the schools of the township, and with power to erect a higher school for the older children of all the sub-districts.

The school authorities are: (1.) State Superintendent, elected for two years, with the usual powers; (2.) County Superintendents, one for each county, elected for two years, with power to divide the congressional townships into districts, examine (when associated with two competent persons appointed by the County Commissioners, who together constitute a County Board of Examiners,) teachers, hold institutes, and generally administer the system for the county; (3.) Township Boards, composed of a director from each sub-district into which the township district is divided; (4.) District Boards, composed of the director, clerk, and treasurer; (5.) City Boards of Education, charged with full powers of local management of public schools in the several incorporated cities.

According to the report of the superintendent for 1872 there were 3,419 sub-districts, containing 165,982 persons between the ages of 5 and 21 years. Of this number 106,663 were enrolled in the public schools, with an average daily attendance of 61,538 pupils under 3,835 different teachers (2,048 females), to whom was paid for their services \$596,611. The entire expenditure on account of public schools in 1871 was \$1,701,950, of which \$217,810 was received from the State (interest from the permanent fund and taxes), \$22,680 from county funds, \$822,644 from district tax, and \$431,382 from tuition and other

sources. The total number of school-houses for 3,419 organized districts was 2,437, valued, with lots and apparatus, at \$2,845,262. Beside the public schools there are two State Normal Schools (at Emporia and Leavenworth), with buildings erected at a cost of \$140,000, and an average attendance in both of 300 pupils.

Out of section 16, and 36 in each township, and the 500,000 acres (total nearly 3,000,000 acres), only \$759,095 has yet been converted into a permanent school fund. The university received 46,000 acres, out of which only \$10,000 has yet been realized as a permanent fund. The grounds and improvements have cost \$164,000, mainly contributed by the city of Lawrence. The Agricultural College receives \$90,000 from Congressional grants, out of which \$189,745 have been realized, leaving land unsold estimated at \$180,797, or a total of \$378,542. The State University was crippled at the start by the incorporation of two denominational institutions of higher education (Baker University and Washburne College), on which \$200,000 have already been expended for buildings and equipments.

The census of 1870 returns a school attendance of 63,183, out of a school population (between the ages of 5 and 18) of 108,710, with 16,369 persons 10 years of age who could not read, and 24,550 who could not write. In the table of schools there were 1,663 public schools (1 normal, 4 high, 1 grammar, 118 graded, 1,539 ungraded), with 1,955 teachers; 2 universities with 13 teachers (1 female), and 292 students; 5 special schools (1 agricultural, 2 commercial, 1 blind, 1 deaf mutes), with 277 pupils; and 11 private schools, with 671 pupils.

KENTUCKY.

Kentucky was settled from Virginia, of which it was part until 1791, when it was admitted as a State, with a population of 73,077, which in 1870 had increased to 1,321,011. In its educational and economical policy it followed the mother State—relying on colleges, academies and private tutors for families who could pay, and making no general provision for common schools until 1821, when a Literary Fund was established out of one-half of the clear profits of the Bank of the Commonwealth. This law was made slightly efficient by the act of 1830, 'to establish a uniform system of public schools,' in which this provision occurs.

'any widow or *femme sole* over 21 years of age, residing and owning property subject to taxation for school purposes in any school district, shall have the right to vote, either in person or by written proxy; also infants so situated may vote by proxy.' In 1838 an act to establish a system of common schools was passed, by which a Board of Education was instituted, of which the Superintendent of Public Instruction, appointed by the Governor with the consent of the senate, was made a member and the executive officer. By this law the State was divided into districts, and the income of the small permanent fund was increased by a tax of two cents (made three by popular vote in 1850) on every one hundred dollars of taxable property in the State, designed, according to a subsequent act (1845), 'to encourage and aid the citizens to organize and maintain common schools.' In 1842 the Superintendent was instructed to report on creating the profession of teaching, and in 1854 the legislature made provision for the education of 150 teachers in the State University at Lexington. But the difficulties of a sparse population, and the peculiar social and industrial habits of the people render a system of common schools impossible, and the schools never got such a lodgment as to materially modify the habits of the State except in Louisville, where the graded system was truly efficient, its public high school, teachers, and superintendence comparing favorably with these features in any city. The census of 1870, out of a school population (5 to 18) of 454,539, returns 181,225 persons in attendance in the year previous, and out of the entire population (1,324,011), 249,567 persons over 10 years who can not read, and 321,176 who can not write.

According to the same census there were in 1870, 5,149 schools of all kinds in operation; 4,727 public schools, viz., 1 normal, 23 high, 19 grammar, 88 graded, 1,596 ungraded, with an aggregate of 218,440 pupils; 137 classical academies and colleges (including two universities), with 12,088 pupils; 15 professional and special schools, 2 law, 4 medicine, 5 theology, 1 agricultural, 8 commercial, 1 blind, 1 deaf mutes, 1 idiotic.

According to the report of the State Superintendent for the year ending June 30, 1871, there were 5,117 school districts, in which 5,068 schools were taught to 120,866 pupils, at an expense to the State (about \$156,000

income of school funds, \$802,000 avails of State property tax,) of \$968,176, to which will be added next year the avails of "a rate bill assessed on each patron of the school, according to the number of children and length of time actually sent by each." The State tax is about 2 mills on each dollar of taxable property, which, according to the census in 1870, was \$469,544,294.

LOUISIANA.

Louisiana was admitted a State in 1812, with a population in 1810 of 76,556, which had increased to 726,915 in 1870. While in a territorial organization, the University of Orleans was instituted, and provision was made for a college in the city of New Orleans, and at least one academy and one public library in each county, and for the support of the same, \$50,000 was to be raised annually. In 1808 authority was given to institute elementary schools in each parish, which in 1819 were placed under police juries, and in 1821 under five trustees appointed by the police jury of each parish, from the resident landowners; and the sum of \$800 was appropriated annually to each parish for such schools, which could be increased by a local tax on the property of the parish. In 1833 the Secretary of State was made Superintendent of Public Education, and required to submit to the Legislature annually a report on the condition of schools, academies, and colleges. In 1849 special authority was given to the Second Municipality of New Orleans to establish a system of public schools supported by a tax on the property, which system was organized in that year on a plan submitted by Henry Barnard of Connecticut, to whom the position of superintendent was tendered before the schools were opened, and again in 1849. In the constitution of 1845, it is ordained that a superintendent of public education shall be appointed, and that free public schools shall be established throughout the State supported by taxation on property, and that all lands donated by the United States shall constitute a perpetual fund, on which the State shall pay an annual interest of six per centum for the support of such public schools. In 1847 an act 'to establish Free Public Schools' for all white children between the ages of 6 and 16, provided for the appointment of a State Superintendent, and of a superintendent for each parish, and the collection of a tax of one mill on the dollar of the taxable property of the State,

and establishment of a State School Fund out of a consolidation of all land grants (786,044 acres for common schools,) and individual donations made for educational purposes. To these revenues was added in 1855 a capitation tax of one dollar on each free white male inhabitant over the age of twenty-one years. The almost insuperable difficulties of a sparse population, divided socially by race and occupation, made a system of common schools almost impossible out of New Orleans, and Baton Rouge, and the larger villages.

In the constitution of 1868 it is ordained that 'the General Assembly shall establish at least one free school in each parish, and provide for its support by taxation or otherwise.' 'All children between the years of 6 and 21 shall be admitted to the public schools or other institutions of learning sustained or established by the State in common, without distinction of race, color, or previous condition. There shall be no separate school or institution of learning established exclusively for any race by the State of Louisiana.' Provision is made for the election by the qualified voters of the State of a Superintendent of Education, to hold his office for four years, and to receive a salary of \$5,000 per annum. In the spirit of these provisions, a system of public schools was inaugurated in 1870, which with abundant means, has encountered almost insuperable obstacles from the prejudices of race and the disturbed condition of the public mind. 'Colored citizens are willing to receive the benefits of the schools, but have not the knowledge or experience required to establish and manage a system; the white citizens are opposed to mixed schools.'

The school authorities are: (1,) a State Superintendent; (2,) State Board of Education, composed of the State and six Division Superintendents; (3,) a Superintendent for each Judicial District, of which there are six; (4,) Parish Directors, composed of one member for each jury board; (5,) Town and City Boards. The means of support consist of (1,) Free School Fund, \$1,193,500; (2,) Seminary Fund, \$138,000; (3,) Amount levied on property, \$468,035; amount of poll tax, \$112,668. The State tax is two mills on the dollar upon all taxable property.

The census of 1870 returns a school attendance of 51,259, out of a population

(persons from 5 to 18 years) of 226,114; and 592 schools of all kinds, viz., 178 public, (1 normal, 5 high, 4 grammar, 60 graded common, and 108 ungraded common), with a total of 25,088 pupils; 36 classical academies and colleges (including 2 universities), with 4,357 pupils; 10 professional and special schools, viz., 1 law, 1 medicine, 1 theology, 1 blind, 1 deaf mutes, and 4 commercial.

MAINE.

Maine was settled under the colonial jurisdiction of Massachusetts, and acted under the school legislation of that commonwealth, until 1820, when it was admitted as a State, with a population of 298,335, which had increased in 1870 to 626,915. The constitution of 1820 makes it the duty of the legislature 'to require the several towns to make suitable provision at their own expense, for the support of public schools, and to encourage and suitably endow academies, colleges and seminaries of learning within the State; *provided*, that no donation, grant, or endowment shall at any time be made by the legislature to any literary institution, unless at the time of making such endowment the legislature shall have the right to grant any further powers to alter, limit, or restrain any of the powers vested in any such literary institution as shall be judged necessary to promote the best interests thereof.' The first school law distinct from that of Massachusetts was passed in 1821, by which each town was required to raise by tax on the polls and estates of the citizens a sum of money, which in the aggregate would amount to at least 40 cents for each inhabitant. This sum, increasing from year to year with the population was apportioned among the several school districts into which each town was divided, for the support of public schools, equally free and accessible to all the children between the ages of 4 and 21 years, under the local care of an agent appointed by the town for each district, and the general supervision of a superintending committee for the whole town in the matter of teachers and studies. These fundamental principles were slightly altered in 1822 and 1825, by which the election of the agent was left, on the vote of the town, to the district, and the towns of Portland in 1825, Bath in 1828, Bangor in 1832, and all other towns in 1834, were allowed to dispense with a district agent and put all their schools under one board. In 1825, the selectmen of the several towns

were required to make returns to the Secretary of State, once in three years, as to the number of districts, the number of scholars of school age, and the number in actual school attendance, the length of time the schools were kept, and the amount expended in each. Maine was thus the second State to require such returns, and which became henceforth the basis of all school discussion. In 1828 a permanent State School Fund was commenced by setting apart the sales of twenty townships of the State lands for that purpose;* and the principle of a graded school by the employment of a master and teachers in the same district was recognized. —After much discussion in local and State conventions, and in the legislature from 1838 to 1846, in the year last named a State Board of Education was instituted, and in 1847 the mistress was required to keep a register, and return the same at the close of the school to the town school committee, who were required henceforth to make the statistical return to the Board of Education. In 1835 the first educational association was formed, and in 1838 the State Teachers' Association was organized. In 1846 the first Teachers' Institute was held; in 1863 a State Normal School was opened at Farmington, and a second at Castine in 1865; and in 1869 the office of County Supervisors was established, and \$16,000 appropriated for their salaries.

According to the revision of 1871, the administration and supervision of common schools is committed to: (1.) State Superintendent, appointed by the Governor and council for three years, or during the pleasure of the executive, to exercise general supervision, advise and direct town committees, obtain and disseminate information respecting the schools of the State and other States and countries, awaken and sustain a popular interest in school matters, hold annually a State educational convention, and an institute of teachers in each county, prescribe the studies that shall be taught (reserving to town committees the right to pre-

* In 1784 the legislature of Massachusetts directed the committee charged with the sale of eastern lands to reserve, in each township conveyed, 200 acres for the use of the ministry, 280 for the first settled minister, 280 for the grammar school and 200 for the future appropriation of the General Court. This resolve was modified in 1785 so as to require a reservation of five lots of 320 acres each, in every township six miles square, one for each of the purposes above specified. This resolve in the articles of separation in 1818, became applicable to all grants and sales of land made by Massachusetts or Maine. The present practice in Maine is to reserve in each township 1,000 acres for the use of schools, which, after the township is settled, form a school fund for the town. Down to 1834 more than half a million acres of land had been donated by the State to incorporated academies, and nine townships of land to two colleges.

scribe additional studies), act as superintendent of the State Normal School, and report annually to the legislature. (2,) County Supervisors, appointed by the Governor, on the recommendation of State Superintendent, for each county, for three years, an assistant of the State Superintendent, and together with him constituting a State Board, to meet at least once a year during the session of the legislature for the purpose of conferring with the educational committee of that body, and maturing plans for the following year to promote and elevate the public schools. (3,) Town Superintending School Committee, of three members, elected one each year for a term of three years, who examine, after public notice of time and place, all candidates for teaching in reading, spelling, writing, English grammar, geography, history, arithmetic, and other studies usually taught in public schools, and particularly in the school for which he is examined, and also his capacity for the government thereof; and employ teachers for the several districts, prescribe regulations for the studies, books, discipline, and returns of all the public schools. (4,) District Agents, one for each, where the town is divided into districts.

The support of public schools is derived from (1,) State School Fund, the income of which, and all money received by the State from the tax on banks, together 'with a mill tax for the support of common schools, assessed and collected as other State taxes, and paid out according to the number of scholars in each;' (2,) Town Tax, not less than one dollar for each inhabitant, exclusive of the income of corporate school funds, or revenue from the State, or devise, bequest or forfeiture to the use of schools; (3,) District Tax, for site, construction, and equipment of school-houses, and for maintaining graded schools, not exceeding the sum received from the town.

In 1870 the total cost of 4,000 common schools was \$1,077,927, to which the towns voted by tax \$740,321, and the school fund (\$293,596) \$12,409; districts to continue schools, \$24,000; balance by the State.

According to the census of 1870 the whole number of schools of all kinds was 4,723, with 6,986 teachers (2,320 males, 4,556 females), and 162,636 pupils, out of a school population (5 to 18 years) of 175,488; 13,486 persons over 10 years of age could not read, and 19,052 could not write.

MARYLAND.

Maryland was first settled in 1634, had in 1790 a total population of 319,728, which had increased in 1870 to 780,894, on an area of 11,124 sq. m., and with \$423,834,919 of taxable property. The Constitutions of 1776 and 1851 had no provision respecting education; that of 1864 prescribed even the details of organization and the amount of taxation ('not less than ten cents on each hundred dollars of taxable property, until the existing School Fund has been increased to \$6,000,000 by the accumulating avails of an annual tax of five cents on the taxable property, when the annual State tax for school purposes shall be reduced to five cents'). These provisions in the revision of 1868 gave way to three brief articles, by which it is made the duty of the first General Assembly 'to establish by law a thorough and efficient system of free public schools, and to provide by taxation or otherwise for its support,' and to continue the system of public schools established by and under the Constitution of 1864, until the end of the first session of the General Assembly held after 1868.

In 1671 an act passed the upper house of the assembly 'to found and erect a school or college in the province of Maryland, for the education of youth in learning and virtue,' which in the lower house was returned with a message asking that the place for the college might be named, and 'that the schoolmasters of such school or college should be qualified according to the Reformed Church of England, or that there be two schoolmasters, one for the Catholic and one for the Protestant children, and the Protestants shall have leave to choose their schoolmaster;' and 'the Lord Proprietor be pleased to set out his declaration as to what privileges and immunities shall be enjoyed by scholars brought up or taught at such schools.'

In 1694, and again in 1696, a 'petitionary act for free schools' was addressed to his Most Excellent Majesty asking 'for His Majesty's princely royal benediction and aid in the establishment of schools and colleges of universal study; and for the propagation of the gospel and education of youth within the province in good manners and letters,' especially for 'free school or schools or places for the study of Latin, Greek, writing, and the like,' with 'one master, one usher, and one writing master or scribe to a school of one hundred scholars, more or

less, according to the ability of said free school,' and that 'the Most Reverend Father in God, Thomas, by the grace of God, Archbishop of Canterbury, and Metropolitan of all England, may be chancellor, and to perpetuate the memory of your Majesty, the first, at Anne Arundel town, be called King Williams school or college, and be managed by certain trustees nominated and appointed by your Sacred Majesty,' and so on 'until each county of the province shall have one free school, and apply so much of the revenues to each school as they shall deem most expedient, not exceeding 120 pounds per annum.' Under this and subsequent acts in 1715, 1717, 1723, and especially of the last, a 'free school,' inadequately endowed, was established in each county, 'the trustees were to have perpetual succession, the schoolmasters were to be members of the Church of England, of pious, exemplary lives, and capable of teaching well, grammar, good writing, and mathematics; for which they were to be allowed the use of the 100 acres of land attached to the school, and £20 per annum, paid out of the county allowance.'

From an advertisement in the Gazette, February, 1774, it would appear that families were supplied with private teachers after a peculiar fashion. 'To be sold, a schoolmaster, an indented servant that has got two years to serve.' John Hammond, near Annapolis. N. B. 'He is sold for no fault, any more than we are done with him. He can learn book-keeping, and is an excellent scholar.'

The Revolution freed nearly all the clergymen of the English Church, who had attached themselves to the side of the mother country, from their clerical services, and most of them eked out a precarious support for many years by receiving pupils into their families, and setting up private schools.

The earliest law for general education was the act of 1825, 'to provide for the public instruction of youth in primary schools,' by which a State Superintendent was appointed to digest and report a system; and County Commissioners, to divide up the counties into school districts, for which three trustees were to be elected by the qualified voters; and Inspectors for the visitation of the schools and examination of teachers. Two reports were made by the superintendent, which were occupied with the details of the monitorial system and the plan of a central school for teachers, which at that date was

attracting much attention, and had been officially noticed and commended by Gov. Clinton to the legislature of New York. The office was abolished in 1827, and not revived till 1865, in pursuance of a provision of the constitution of the year previous.

The avails of the school fund continued to be distributed through the County Commissioners, and the capital was increased by the amount of the U. S. Surplus Revenue Fund. The great result of the movement of 1825 was the permanent establishment of public schools in the city of Baltimore, which in 1870 included 102 day schools (1 college for boys, 2 high schools for girls, 37 grammar, 60 primary, and 2 unclassified schools), with 21,795 pupils, under 511 teachers, besides 6 evening schools, and 13 schools for colored children—a total of 121 schools, 571 teachers, and 24,673 scholars.

The act 'to establish a uniform system of public instruction' of 1865, vested its supervision and control in a State Board of Education, and in a board of school commissioners for the city of Baltimore and each county, embraced a series of schools from the neighborhood or primary, and township grammar, to a county high school and a State normal school, and directed that 'every child in the State between the ages of 8 and 14 years, without fixed employment, shall attend school at least six months in each year, and that no child under the age of 14 years shall be employed in any business, unless such child has attended some school six months of the year preceding.'

In 1868 the impulse which had been given to school agencies was arrested, and a reaction, both in legislative and administrative activity, followed from which the State has not yet recovered. Under the judicious management of the superintendent (Prof. Newell, principal of the State Normal School), further reaction has ceased.

By the census of 1870, out of a school population of 244,454, there was a school attendance of 105,435, and 114,100 persons over 10 years of age who could not read, and 135,499 who could not write. Of the whole number of schools (1,779) returned, there were: 1,487 public (3 normal, 10 high, 49 grammar, 159 graded, and 1,266 ungraded); 53 classical academies and colleges, including two universities; 19 professional and special schools (1 law, 2 medicine, 4 theology, 1 agricultural, 3 commercial, 1 blind, 1 deaf mutes, 6 art and music); and 220 private schools.

MASSACHUSETTS.

Massachusetts had by the first national census in 1790, a population of 378,717, which had increased in 1870 to 1,450,350, on an area of 7,800 square miles, with taxable property to the valuation of \$1,417,127,376—second only to the Empire State in this particular.

Massachusetts in its constitution of 1780, was the earliest State to throw the protection of a fundamental ordinance around funds appropriated to educational purposes, and particularly of Harvard College, 'in which many persons of great eminence have, by the blessing of God, been initiated into those arts and sciences which qualified them for public employment both in church and State; and whereas the encouragement of the arts and sciences, and all good literature, tends to the honor of God, the advantage of the christian religion, and the great benefit of this and the other United States of America,' it is declared that all powers, rights, privileges, immunities, and facilities shall be continued, and all gifts, legacies, &c., are confirmed; and then follows a section drawn up by John Adams, and adopted by the convention unanimously.

Wisdom and knowledge, as well as virtue, diffused generally among the body of the people, being necessary for the preservation of their rights and liberties, and as these depend on spreading the opportunities and advantages of education in various parts of the country, and among the different orders of the people, it shall be the duty of the legislatures and magistrates, in all future periods of this commonwealth, to cherish the interest of literature and the sciences and all seminaries of them, especially the university at Cambridge, public schools, and grammar schools in the towns; to encourage private societies and public institutions, by rewards and immunities for the promotion of agriculture, art, sciences, commerce, trades, manufactures, and a natural history of the country; to countenance and inculcate the principles of humanity and general benevolence, public and private charity, industry and frugality, honesty and punctuality in all their dealings; sincerity, good humor, and all social affections and generous sentiments among the people.

Among the articles of amendments ratified by the people in 1857, are the following: 'No person shall have the right to vote, or be eligible to office under the constitution of this commonwealth, who shall not be able to read the constitution in the English language and write his name,' unless prevented by physical disability from complying with the requirement, and unless he

already enjoys the right to vote. 'All moneys raised by taxation in town and cities for the support of public schools, and all moneys appropriated by the State for the support of common schools' 'shall never be appropriated to any religious sect for the maintenance exclusively of its own schools.'

The earliest legislation of Massachusetts respecting schools, and 'the good education of children,' bears date 1642, which, with various modifications as to details, kept the following objects steadily in view, viz.: the exclusion of 'barbarism' from any family, by making it the duty of the selectmen of every town, in the several precincts and quarters where they dwell, to have a vigilant eye over their brethren and neighbors,' 'to see that they teach their children and apprentices by themselves and others so much learning as may enable them to read the English tongue, and the capital laws, upon penalty of twenty shillings for each neglect therein,' 'to learn some short orthodox catechism without book,' and 'to breed and bring them up in some honest lawful calling, labor, or employment, either in husbandry, or some other trade profitable for themselves and the commonwealth, if they will not, or can not train them up in learning to fit them for higher employments;' and, should parents 'continue negligent of their duty in the particulars above mentioned, whereby children and servants become rude, stubborn and unruly, the selectmen, with the help of two magistrates, shall take such children or apprentices from them, and place them with some masters for years, boys till they come to twenty-one, and girls to eighteen years of age complete, who will more strictly look into and force them to submit unto government, according to the rules of this order, if by fair means and former instruction they will not be drawn into it.' To enable parents to have places where their children and apprentices may be sent to be taught, it was enacted the same year (1642) 'that every township within this jurisdiction of fifty householders, shall appoint one within their town to teach all such children as shall resort to him, to write and read, *whose wages shall be paid either by the parents or masters of such children,* or by the inhabitants in general, by way of supply, as the major part of those who order the prudentials of the town shall appoint; provided those who send their children be

not oppressed by paying much more than they can have them taught in other towns.' In addition to this elementary school, every town of one hundred families, 'shall set up a grammar school, the masters thereof being able to instruct youths so far as they may be fitted for the university,' and the towns which neglect to set up such school any one year, must pay five pounds per annum to the next nearest school. In Plymouth Colony, the provision for schools was not so early, and the requirements for a grammar school were extended in 1677 to towns of fifty families, and impose on 'those who have the more immediate benefit thereof by their children's good and general good, shall make up the residue (over the twelve pounds in current merchantable pay to be raised on all the inhabitants of such town) necessary to maintain the same,' and every town of seventy families which neglected to maintain a grammar schools shall 'allow unto the next town which does, the sum of five pounds collectable by constable on the warrant of any magistrate in this jurisdiction.'

On this basis of the duty of parents to give their children at least an elementary education, and of every town, large or small, to provide the place and teacher where their children could be taught; and of every large town to maintain a teacher competent to fit the same for the university; and of the State to encourage such university, 'that learning might not be buried in the graves of the fathers,' and that some of their sons might be fitted every year for higher employment in church and state, the system of public instruction in Massachusetts has been built up and extended to meet the wants of successive generations. The town grammar school feature, occasionally suspended in some towns, and superseded by the academy and private school in others, has kept the common school up to the requirements of the rich and the educated, and saved the district schools from becoming common in the worse sense, or being regarded as the schools exclusively of the poor, or of those only who knew what constituted the conditions of a good education in respect to house, studies and teachers, but of all, rich and poor, the more or the less intelligent, in the city as well as in the country.

The first revision of the school laws after the revolution was in 1789, by which it is provided 'that towns of fifty families are re-

quired to sustain schools wherein children are taught to read and write, and instructed in the English language, arithmetic, orthography, and decent behavior, for a term equal to one school of six months in each year; every town of one hundred families, twelve months; every town of one hundred and fifty families, eighteen months; and every town of two hundred families, twelve months, and in addition thereto sustain a school wherein is taught the Latin, Greek, and English languages for twelve months in each year.' It is also 'made the duty of the president, professors and tutors of the University at Cambridge, preceptors and teachers of academies, and all other instructors of youth, to take diligent care, and to exert their best endeavors to impress on the minds of children and youth committed to their care and instruction, the principles of piety, justice and a sacred regard to truth, love to their country, humanity and universal benevolence, sobriety, industry and frugality, chastity, moderation and temperance, and those other virtues which are the ornament of human society, and the basis upon which the republican constitution is structured; and it shall be the duty of such instructors to endeavor to lead those under their care into a particular understanding of the tendency of the before-mentioned virtues to preserve and perfect a republican constitution, and to secure the blessings of liberty as well as to promote their future happiness, and the tendency of the opposite vices to slavery and ruin.'

By the act of 1789, 'in consequence of the dispersed situation of the inhabitants of several towns,' the children and youth can not be collected in any one place for their instruction,' such towns were authorized 'in town meeting called for that purpose to determine and define the limits of school districts.' In this provision and the supplementary law of 1800 authorizing district taxation for school-houses, originated the district system, which Mr. Mann pronounced the most 'disastrous feature' of the school legislation of Massachusetts; and from the deteriorating influence of which the State has only quite recently escaped into a graded system for the whole town. The act of 1789 excludes from the town grammar school all children 'who have not in some other way learned to read the English language by spelling the same,' and admits as teachers only those who are

university graduates, or have a certificate of qualification from a learned minister of the town, and give satisfactory evidence of good moral character.' 'Ministers and selectmen are required to see that the youth regularly attend the school, and once at least, every six months, visit and inspect the schools, inquire into the regulations and discipline thereof, and the proficiency of the scholars therein.' 'That the greatest attention may be given to children in the early stages of life, to the establishing of just principles in their tender minds,' and right habits of reading; 'no person shall keep school without a proper certificate from the selectmen, or a committee duly appointed by each town or district, and the minister, if there be one in the place, on the forfeiture of twenty shillings to the informer and the poor of the place.' Whether under master or mistress, 'a sense of piety and virtue, and decent behavior,' as well as reading, and writing if contracted for, were made the staple of primary instruction.

In 1825 the legislature appointed commissioners 'to digest and prepare a system for the establishment of one or more institutions for instruction in the practical arts and sciences for that class of persons who do not desire, or are unable to obtain, a collegiate education.' This proposition grew out of the discussions which followed the establishment of Mechanics' Institutes in England, Fellenberg's Schools at Hofwyl, and the Rensselaer School at Troy—and the want, long and widely felt, of some essential modification of the studies of the academies and colleges of the country. The report of the commissioners in 1826, and the supplementary report of 1827, anticipates by a quarter of a century the whole movement for the 'new education,' 'the agricultural and mechanical art colleges,' and 'the scientific schools.'

In 1826 towns were authorized to choose a school committee to superintend the schools, to visit and inspect the town and district schools, to examine and approve teachers, to determine class books, and provide the same for such whose parents may be unable to pay for the same; and for the first time to make returns thereafter each year to the Secretary of State (whose duty it is made to furnish appropriate blanks) of the number, state, and cost of each school.

In 1827 a select committee of the House, to whom was referred a memorial of James

G. Carter, praying for aid to enable him to establish a 'Seminary for the instruction of School Teachers,' reported favorably; but the bill not becoming a law by the want of one vote in the Senate, Mr. Carter established such a seminary in Lancaster, as a private enterprise, in the same year; and in 1830 a similar seminary was established at Andover, with the expectation that Mr. Galaudet, of Hartford, would become its principal, but was opened under the direction of Rev. S. S. Hall, who had been a teacher of teachers in a private seminary in Concord, Vermont, from 1822, and whose lectures read to his pupil-teachers were published in 1829, under the title of *Lectures on School-Keeping*, almost the first contribution to this department of American literature.

In 1827 the school laws were thoroughly revised, by which, among other modifications, 'in each town of fifty families the teacher or teachers must be employed, must be of good morals, and competent to instruct children in orthography, reading, writing, English grammar, geography, arithmetic, and good behavior, for at least six months in the year;' and in towns of one hundred families, the following branches must be added, history of the United States, book-keeping by single entry, geometry, surveying, and algebra; and in every city or town of four thousand inhabitants the master shall be able to teach, in addition, the Latin and Greek languages, history, rhetoric, and logic.' All towns are authorized to raise by tax any amount of money they may think necessary for the support of schools. Each town may, in addition to the school committee, appoint one person for each district in the town, a resident of the district, to be called a prudential committee, or they may authorize the districts to choose their own committee. The committee are forbidden to prescribe books favoring any particular religious sect.

In 1829 the first public effort to educate the blind was made in Boston, by the incorporation of the New England Asylum for the Blind, and turning over to its use any unexpended balance of the State's appropriation for deaf mutes.

In 1830 the American Institute of Instruction was formed at Boston, composed of members from all parts of the country, and incorporated by the legislature of Massachusetts in 1831, and in 1835, through

the influence of James G. Carter, (who more than any other one man was the mover in all the advanced legislation of the State from 1830 to 1838), was aided by an annual grant of \$350 to meet the expense of the publication of the annual volumes, which now amount to 42.

In 1834 provision was made for a State School Fund (out of the sale of lands in Maine, and claims of the State on the government of the United States for military services, to which have since been added other sources), which was originally limited to \$1,000,000, but from time to time the maximum was raised, until in 1872 the capital was \$2,233,366. In the same year the employment of children under the age of fifteen years, in any manufacturing establishment was forbidden, unless such child had attended some public or private school taught by a teacher qualified according to law, at least three of the twelve months next preceding, on a forfeiture of \$50 for each offense, for the use of the common schools in the town. This provision has been modified from time to time, until now the main object of school attendance, the elementary instruction of such children, is secured.

In 1836 the school laws were revised, and appear on the statutes under the title of 'Public Instruction.' In this revision the school committee are required to include in their annual school returns the number and attendance in all private schools and academies. 'No apportionment of the income of the school fund can be paid to any town which does not make the return required by law, or raise by taxation, for the wages of teachers only, a sum equal to one dollar for each person belonging to such town between the ages of 4 and 16.' This sum has been increased until it now stands at \$1.50 for each person between 5 and 15.

In 1837 the legislature authorized the expenditure of \$20 for each district for the purchase of a district school library. To supply the want of books suitable for this purpose, the State Board caused to be prepared a selection of books, entitled 'The School Library,' consisting of two series, one for children 10 and 12 years of age and under, and the other for advanced scholars and their parents. This action of the Board, however, met with considerable opposition, as being meant to control the reading facilities of the public, and the enterprise, after reaching thirty volumes, was abandoned by

them. To encourage districts in the purchase of school libraries, the State appropriated to each district of sixty children between the ages of 4 and 15 years, the sum of \$15 towards the purchase of the same; and for districts having over sixty children, the sum was increased proportionately to the number. In 1843, any town or city in the commonwealth was authorized to raise and appropriate to school libraries a sum equivalent to \$15 to each grouping of sixty children, which in 1851 was extended to maintaining a public library for the use of the inhabitants of the town, and providing the same with suitable rooms under proper regulations for its government; and to appropriate annually a sum not exceeding fifty cents for each of its rateable polls in the year next succeeding that in which such appropriation is made.

Social libraries may be established by seven or more proprietors associating themselves into a corporation for the purpose of establishing, extending, or enlarging such library. According to the returns of 1872, there were 60 city and town libraries, with an aggregate of 500,000 volumes, beside 265 social libraries, with 643,866 volumes.

In 1837, school districts were authorized to raise money to establish and maintain a common school library and apparatus for the use of the children therein, to the amount of \$50 for the first year and \$10 for each succeeding year. This provision has been modified until now all towns and cities may establish libraries by tax.

In the same year, in place of a State Superintendent, as asked for, a Board of Education was instituted, to consist of the Governor, Lieutenant-Governor, and ten persons, holding their offices respectively for eight years, whose duty it was made 'to submit to the legislature in a printed form annually an abstract of the annual school returns made by the town committees; 'to appoint a secretary, who, under their direction, shall collect information of the actual condition and efficiency of the common schools, and other means of popular education, and to diffuse as widely as possible through every part of the commonwealth information as to the most approved and successful methods of arranging the studies and conducting the education of the young, to the end that all children who depend upon common schools may have the best education which they can be made to

impart; and to submit annually to the legislature a detailed report of all its doings, with such observations as their experience and reflection may suggest upon the condition and efficiency of our system of popular education, and the most practicable means of improving and extending it.' Of this board, Horace Mann, at the time President of the Senate, was made Secretary.

In 1838 the school committee are required 'to make annually a detailed report of the condition of the several public schools, designating particular improvements and defects in the methods or means of education, to be read in open town meeting, or be printed and distributed for the use of the inhabitants, deposited in the office of the clerk of the town, and an attested copy transmitted to the secretary with the official return required by law.' The committee must also select and contract with the teachers in the town and the districts, unless the town shall determine otherwise in respect to the districts; must enter in a record-book all their proceedings, and deliver over the same, at the expiration of the year, to their successors in office; shall fill up all the blanks and answer the inquiries in the form of return prescribed by the State Board, and cause the school register prescribed by said Board to be faithfully kept in all the town and district schools.' The committee thus charged with new and important duties are required to be paid 'one dollar each per day, and such additional compensation as the town may allow.' In the same year the secretary, in addition to his other duties, is required 'to attend in each county a meeting of teachers, school committees, and friends of education generally, and diligently apply himself to the object of collecting information of the condition of the public schools of such county, of the manner in which school committees fulfill the duties of their office, and the condition of the districts in respect to teachers, pupils, books, apparatus, and methods of education, in order to furnish requisite material for the report of the Board.'

In the same year, the establishment of special institutions for qualifying teachers for common schools, first systematically presented by Thomas H. Gallaudet and James G. Carter in periodicals in 1824-5, and issued in pamphlet form in the year following, and subsequently advocated almost every year in educational conventions and addresses, and

particularly after 1835 by Rev. Charles Brooks, was secured by the offer of the sum of \$10,000, by the Hon. Edmund Dwight, of Boston, then a member of the State Senate and of the Board of Education, on the condition that a like sum should be appropriated by the State for the same object. The offer was accepted, and the sum of \$10,000 appropriated by the State, and both sums placed at the disposition of the Board of Education; and three schools were opened at Lexington, Bridgewater, and Barre.

In 1839 every school averaging 50 scholars was required to employ a female assistant, and contiguous districts were authorized to associate for the purpose of maintaining a Union school for the older children of such associating districts. This (and a similar Act in Connecticut of the same year) is the germ of the whole system of Union and Graded schools, which now prevails in every State.

In 1840 a vigorous attempt was made in the legislature to reverse the policy of a State provision for educating teachers, by returning to Mr. Dwight the gift made by him to the State for this purpose, and to abandon all State supervision of schools; and at one period it was anticipated by Gov. Everett, and Mr. Mann, that the proposition would succeed by a small majority in both Houses.

In 1841 the town of Springfield appropriated the sum of \$1,000 as a salary for the Superintendent of Public Schools, to be selected and appointed by the town committee. This office was filled by the appointment of S. S. Green, afterwards Professor in Brown University, and was an important step in the improvement of school supervision in Massachusetts. Several other towns followed the example of Springfield. But in Lowell the right of the town to appoint such officer was contested, which led to the passage of an Act in 1854 requiring the school committee to appoint a superintendent wherever the town or city shall so determine, and gradually the practice of appointing a superintendent has extended to all the cities and many large towns. In Boston, after the subject had been discussed for years in the School Committee and City Council, the office was created in 1851, and filled by the appointment of Nathan Bishop, at that time occupying the same position in Providence since 1839, the earliest officer devoting his whole time to the work, in the United States.

In 1842 the sum of \$6,000 annually for

three years was appropriated to continue the Normal Schools which were for the first time designated State institutions, and the policy of district school libraries was extended to towns and cities.

In 1845 an important decision was made by the Supreme Court, by which the right of all the towns to vote such sums of money for the support of town schools, and to make the public schools as good, as long, and as numerous as in the exercise of an honest discretion they may deem it expedient, was affirmed. In this case the town of Newburyport had provided for the support of all the schools, including the town grammar school, required by law, and also voted to raise money for the support and did support a Female High School for the purpose of teaching book-keeping, algebra, geometry, hygiene, mental, moral, and natural philosophy, the Latin and French languages, and other higher branches than were taught in the grammar schools of the town. The court held this to be a town school within the meaning of the revised statutes, and the money for its support could be legally raised by tax.

In 1846, Teachers' Institutes which had been held by Mr. Mann for the first time in 1845, by aid of \$1,000 given by Hon. Edmund Dwight, were provided for by an appropriation of \$2,000 from the school fund, since increased to \$3,600.

In 1847, cities and towns were authorized to appropriate money for the support of schools for the instruction of adults in reading, writing, English grammar, arithmetic, and geography; and in the same year the offer of Theodore Lyman to aid in the establishment of an institution for the instruction, employment, and reformation of juvenile offenders, was accepted, and the State Reform School at Westborough was begun; and an annual appropriation made to furnish books to the inmates of the State Prison, which was afterwards extended so as to secure instruction in reading and writing to all prisons and houses of correction.

In 1848, wherever a suitable site for a school-house can not be secured by voluntary purchase, the same may be condemned for public uses, and the owner properly indemnified. In the same year an appropriation was made for training and teaching idiotic children of indigent parents for three years, which resulted in the establishment of the institution for that class at South Boston in 1851.

In 1849, all willful interruptions and disturbances of schools were punishable by fine and imprisonment, and provision was made for the preservation of all school reports and other documents in the school libraries; and the State Library was made the office of the Board of Education, and the secretary made librarian, with instructions to provide for the display of apparatus, &c. A copy of Barnard's *School Architecture* was furnished to each town, and an annual appropriation of \$150 was made to the State Teachers' Association, and similar sums were afterwards voted to this and to the county associations.

In 1850, physiology and hygiene were added to the branches to be taught, and teachers were required to be examined into their abilities to teach the same. Towns were authorized to abolish school districts, and take possession of the property of the same, and provide for the erection of school-houses at the common expense of the town. In the same year, cities and towns were authorized 'to make all needful provision and arrangements concerning habitual truants, and children not attending school, without any regular lawful occupation, growing up in ignorance, between the ages of 6 and 15 years.' The Board of Education was authorized to furnish a copy of either Webster's or Worcester's large Dictionary of the English Language to every school district, and every school, except primary. In the same year provision was made for an Agricultural College, which did not take form and location till Congress made in 1862 the Agricultural and Mechanical College land grant.

In 1851 the Board of Education was authorized to employ two or more suitable persons to visit the towns and school districts, for giving and receiving information in the manner of the secretary of the Board; and to publish for general distribution selections from the reports of the Board.

In 1853, the legislature established a system of State scholarship 'to aid in qualifying principal teachers for high schools,' by assisting to educate and train forty-eight young men, 'of irreproachable moral character, free from any considerable defect of sight and hearing, and of good health and constitution,' in the different colleges of the State. Before the details of the system could be perfected by actual experience, particularly in the direction of practical training, and in the final step of inducting

these teacher graduates into the schools, first as assistant, and afterwards as principal, the law was repealed, and the most beneficent measure was lost for a quarter of a century, at least.

In 1857, towns were authorized to establish and maintain day or evening schools for the education of persons over fifteen years of age—and thus legalized the practice of evening schools already introduced in several cities (in Boston in 1836, in New Bedford in 1848, in Lowell in 1853).

In 1870, after nearly fifty years of suggestion, discussion, and isolated experiments, drawing was included by act of the legislature (May 16) 'among the branches required to be taught in the public schools,' and 'any city and town having more than ten thousand inhabitants were required to make provision for free instruction in industrial or mechanical drawing to persons over fifteen years of age, in day or evening schools, under the direction of the school committee.' Thus was consummated one of the suggestions of the commissioners appointed by the legislature in 1825, that drawing should be made part of the curriculum of their proposed State institution for instruction in the practical arts and sciences; and of the slate and blackboard exercises presented by Josiah Holbrook and William A. Alcott from 1830 to 1842, and of Mary T. Peabody (Mrs. Horace Mann) in her *Primer of Drawing*, and of Mr. Barnard in his *Manual of Methods for Common School Teachers* in 1839-41; and of Mrs. William Minot in her first instructions to a class in the Franklin school in 1839, and to all the teachers of the primary schools of Boston in 1841-42.

In 1871 the legislature appropriated \$10,000 out of the income of the school fund for the salaries and expenses of special agents of the Board of Education, the object being, first, to 'secure the services of a competent agent to give aid and direction to a more systematic and thorough course of instruction in drawing in the Normal Schools; to visit the cities and towns required by the law of 1870 to maintain schools or classes for instruction in mechanical drawing; to give information and assist school committees in the formation of such classes, and in the management of suitable courses of instruction in them; and to advise and aid a practical method for the education of teachers in drawing for special

schools and for the common schools in this branch.' The second object was the employment of competent persons to act as special agents of certain designated districts in coöperation with the labors of the general agent, with the view of reaching all the towns in the commonwealth, annually, by a direct and thorough system of inspection, and independent of, and at the same time in coöperation with, that of the town committees. It was to do, in part, in Massachusetts the work of county superintendents in the system of Pennsylvania, Illinois, and several other States. This feature was part of the original school law prepared by Mr. Barnard in 1844 for Rhode Island.

The first object was secured by the employment of Mr. Walter Smith, art master in one of the prominent schools (at Leeds) in connection with the English department of art and science, as professional adviser and lecturer in art education, with the title of State Director of Art Education.

In 1872, the fifth State Normal School was located at Worcester, and \$60,000 appropriated for a building on a site appropriated for its use,—a sum which measures the progress of public opinion towards these institutions, the first institution, in 1838, not receiving a dollar towards such expenditure, and the three only \$5,000, after an experience of four years of their utility. They are now regarded as indispensable in any system of public instruction.

The statistics of public schools and State expenditures for educational purposes in 1871 were as follows: total amount of taxes paid to maintain public schools, \$5,462,852; and total expense, exclusive of collegiate and professional education \$6,297,010; \$22.63 for each person between the ages of 5 and 15 years. Among the items are—\$3,272,335 for the wages of teachers; \$122,086 for town and city supervision and printing reports; number of public schools 5,076 (including 181 high schools), with 273,661 pupils; number of normal schools (State and city) 6, with 1,100 pupils; teachers' institutes held, 7, with an attendance of 908 teachers. Among the charges on the income of the State School Fund were \$3,400 for secretary; \$4,224 for agents; \$10,627 for printing report and expenses of board; \$41,427, State Normal Schools; \$3,000, Institutes; \$800, State Teachers' Association; \$225, County Associations; \$500, American Institutes.

MICHIGAN.

Michigan was settled as early as 1650, organized as a territory in 1805, and admitted a State in 1837, with an area of 56,451 square miles, and a population in 1830 of 31,639, which had increased in 1870 to 1,184,049, and taxable property to the value of \$272,242,917.

The constitution adopted in 1835 ordains the appointment of a superintendent of public instruction, consecrates the proceeds of all land grants for educational purposes, to such purposes and no other, provides for a common school in each school district for at least three months in the year, and the establishment of libraries, at least one in each township, and a university for the State. Under these provisions, that of a State Superintendent and township libraries being in advance of other States, the system of public instruction was organized, and these cardinal features were not materially altered by the Constitution of 1850; except the legislature is enjoined to provide within five years for the establishment of a 'system of primary schools, in which a school shall be kept without charge for tuition, for at least three months in each year in every school district, and all instruction conducted in the English language.' The university is placed under the charge of a Board of Regents, one for each judicial district, elected at the same time, and for the same term, as the judge of that circuit. A State Board of Education is also created, of which the Superintendent is member and secretary, and to which the State Normal School is committed. To these State officials the law has added, County Superintendents, one for each county, elected by the people of the county; Township Inspectors, three for each congressional township; District Boards for the local management of the schools; and Boards of Education for the cities and large villages.

The system of public instruction in Michigan started under favorable auspices—the early settlers having come from States where common schools had been the main reliance of the people for the education of their children, and having located in neighborhoods, they enjoyed the facilities of at once organizing schools after the old type. The framers of the first constitution, and of the early legislation, were graduates of the academies and colleges of New York and New England, and into the educational

movement from the start, as soon as agitated elsewhere, were introduced the agencies and institutions which have proved useful in the older States. A School Journal was started in 1838; a school convention was called in the year following; and was soon followed by county teachers' associations and the State Teachers' Association in 1853; a Teachers' Institute was held in 1846, and every year since there has been several such brief professional courses, and a State Normal School has been in operation since 1859; the permanent university was opened to receive pupils within two years after the State had adopted a constitution, and was allowed, with the assistance of the State, and in anticipation of its special endowments, to get its foundations laid, and its different schools organized before denominational institutions were chartered to draw off the pupils and enlist the interest of localities in rivalry, if not in antagonism. Under these advantages the munificent provisions of Congress have been better cherished and applied up to that time than in the other Western States, and her example has had a powerful influence in inaugurating better methods of management.

The system of public instruction embraces: (1.) Primary schools—so extended and so expansive in their organization as to meet the wants of 5,000 rural districts, where the sparseness of the population renders only one school for pupils of all ages possible, and at the same time, by allowing of gradation in 256 villages and cities, to fill up all the educational demands below the university and special schools—doing away with the necessity of incorporated academies and college preparatory schools. This higher, or secondary institution is not yet fully developed, but the germ and capacity is in the system, and is partially worked out in Detroit and other cities. According to the superintendent's report, there were 273,682 pupils, under 11,014 teachers (8,221 females), whose wages amounted to \$1,398,328; in school-houses which cost \$6,234,797. The total school expenditure for the year 1870 was \$3,154,221. Of this \$175,000 was income of the Primary School Funds (capital \$2,700,834, with 468,713 acres unsold), and the balance was State, town, city, and district property taxation, the rate bills paid by parents up to 1869 having been abolished. Of the teachers engaged in the schools nearly 1,000

are graduates of State Normal Schools or higher educational institutions, and 2,005 attended the 16 institutes which were held in as many different and widely separated localities in 1870.

(2,) The Union and High Schools although belonging to secondary institutions, are returned under the primary schools. Of the semi-public schools—the incorporated academies, and colleges, and the private classical schools, no returns are made.

(3,) The University, with its professional schools, is part of the system of public instruction, and in 1870 reported 1,126 students, viz., 477 in the department of science, literature, and the arts; 340, of medicine and surgery; 309, of the law. The expenses of the institution for the year were \$70,167, met by the income of the University Fund (\$564,443, with 200 acres unsold), and an appropriation from the State treasury. The State has recently assigned the avails of a special tax in aid of the university; all the schools of the institution are open to all citizens of the State without distinction of race or sex.

(4,) State Agricultural College at Lansing—founded in 1855, in pursuance of the constitutional requirement of 1850, on a farm of 676 acres, and with a special fund, not yet realized, for its support, but with an annual appropriation of \$30,000 from the State treasury towards its expenses, in addition to over \$100,000 paid towards its buildings and equipment in 1870. There were 129 students, of whom 10 were females.

(5,) State Normal School at Ypsilanti, with 90 pupil-teachers in the training department. This school was founded in 1849, on an endowment of a portion of the salt spring lands and swamp lands, out of which a capital of \$67,616 has been realized, leaving land unsold, which it is estimated will increase the capital to \$300,000.

(6,) Other Special Schools are the institutions for deaf mutes and blind at Flint, founded in 1854; the State Reform School at Lansing, opened in 1856.

(7,) The public library feature of the system of public instruction ordained in the constitution has not been developed satisfactorily in most townships. In Detroit alone has it become a prominent institution, numbering 20,000 volumes in 1872.

The aggregate expenditure by the State, from funds and property taxation, in 1870 exceeded \$4,000,000.

MINNESOTA.

Minnesota was organized as a Territory in 1849, and admitted as a State in 1850, with an area of 83,531 square miles and a population in 1860 of 172,413, which had increased in 1870 to 439,706, with taxable property to the value of \$84,135,332.

The Constitution of 1850 provides for a general and uniform system of public schools in each township by taxation or otherwise, and a university for the State.

The State has received from Congress 2,969,790 acres for schools, 46,080 for a university, and 120,000 for a college of agriculture and the mechanic arts. The State Auditor for 1872 reports the permanent school fund already realized at \$2,532,351, and the avails of other educational lands sold at \$500,000 more.

The authorities for administration are:

(1,) State Superintendent appointed by the Governor and Senate at a salary of \$2,500, who must meet with the county superintendents for discussions of all matters relating to the schools, and hold teachers' institutes as far as practicable in the different counties, and encourage county conventions of teachers.

(2,) County Superintendents for such counties as elect so to do, through the County Commissioners, who examine teachers after thirty days' notice of the time and place, and issue three grades of certificates and revoke such license for adequate cause; visit all the schools in the county, and conduct in each county one institute for the instruction of teachers each year; encourage teachers' associations, and disseminate information respecting improved methods of teaching, school construction and equipment, and report annually.

(3,) District Trustees—composed of director, treasurer, and clerk, elected by the voters in districts and sub-districts created by the County Commissioners, to have charge of all school matters in such districts, subject to the action of the State and County Superintendents.

(4,) Board of Education for independent school districts (cities, villages, &c., having over 500 inhabitants), composed of six members, two elected each year for a term of three years, with power to appoint a district superintendent (to visit schools, and assist teachers in the classification and promotion of the pupils), and district examiners, to examine candidates for the office of teacher, &c.

In 1872 the State disbursed \$171,881 for the 'State Institutions,' viz., \$26,212 for Normal Schools; \$10,000 for Insane Asylum; \$20,000 for deaf mutes and blind; \$12,009 for State Reform School; \$12,506 for soldiers' orphans; and \$331,161 for State Prison;—total, \$171,981.

The national census for 1870 returns 12,747 persons over 10 years of age who can not read, and 24,413 who could not write.

MISSISSIPPI.

Mississippi was organized as a Territory in 1798, and admitted as a State in 1817, with an area of 47,156 square miles and a population in 1820 of 75,458, which had increased to 827,822 in 1870, with taxable property estimated at \$177,288,892.

By act of Congress in 1803, section 16 in each township is reserved for the support of schools, and 36 sections for the use of Jefferson College, chartered by the territorial legislature in 1801, and two town lots in the town of Natchez, and an out lot not exceeding 30 acres, for the same college. In 1819 another township, or a quantity equivalent thereto, was donated to the State for the use of a seminary of learning. It was stated in a special message of Governor McRae to the legislature in 1856, that the total amount of the Seminary Fund in the treasury of the State, and for which the State was responsible, was nearly \$1,200,000. In 1870 the legislature appropriated \$50,000 a year for ten years to the support of the university.

The Constitution of 1817 contains a clause from the ordinance of 1785: 'Religion, morality and knowledge being necessary to good government, the promotion of liberty, and the happiness of mankind, schools and the means of education shall forever be encouraged.'

The Constitution of 1868 provides for the election by the people of a superintendent of public education, at the same time and manner as the governor, to hold his office for a term of four years and until his successor shall be elected, and whose duty it was to submit to the legislature for its adoption within twenty days after its first session under the constitution, a uniform system of free public schools. It also provides for a Common School Fund out of the consolidation of the congressional township fund, the swamp lands, escheats, fines for penal offenses, and authorizes a poll tax, not to exceed two dollars *per capita*. No religious sect or sects shall ever control any part of the school or university fund.

The system of free public schools adopted by the legislature in 1869 provides for: (1,) State Superintendent; (2,) State Board, composed of the State Superintendent, the Secretary of State and the Attorney General, whose duties are confined to the investment of the school funds; (3,) County Superintendents, of which there are 70, and (4,) District Boards in each county, who have the local management of schools. Each county is made a school district, which can be divided into sub-districts for the management of local schools. A State Normal School exists at Holly Springs, and a Teachers' Institute must be held annually in each Congressional district. In 1870 there were 98,600 pupils enrolled out of a school population of 304,762, in 3,450 public schools, under 3,520 teachers. According to the census there were 291,718 persons over 10 years of age who could not read, and 313,313 who could not write.

MISSOURI.

Missouri was first settled in 1763 and admitted into the Union in 1820, having an area of 67,380 square miles, and a population in 1820 of 66,586 (10,222 slaves), which had increased in 1870 to 1,721,295 (118,071 colored), with a valuation of taxable property of \$556,129,969.

The constitution of 1820 provides for the security of school lands (section 16 in each township, or 1,199,139 acres, and 36 sections, or 46,080 acres, for a university), and enjoins 'the establishment of one or more schools in each township, as soon as practicable and necessary, where the poor shall be taught gratis.' But little progress was made outside of St. Louis until after the constitution was revised in 1865.

In St. Louis, under the Territorial legislature, 'a Board of Trustees for schools in the town of St. Louis,' was organized in 1817; but this Board did little more than legally assert the claims of the city to certain out-lots, which were more vigorously prosecuted by the new Board constituted in 1833, when these claims were converted into a fund which already amounts to over \$1,000,000, and yielded in 1871 an income of \$53,000. The first school was opened in 1838, and the first building was erected in 1842 at a cost of \$10,000; and in 1871 the buildings owned by the city and occupied by the public schools were valued at \$2,000,000, the schools having increased from two in 1841, with 350 pupils, to sixty-eight in 1871, with

an enrolled attendance of 31,221 pupils, under 559 teachers, and maintained at a cost of \$723,362. The schools consist of one Normal School for female teachers; one High School for boys and girls; one intermediate school for boys and girls; twenty-seven district schools in which pupils are classified according to age and attainments in the primary and grammar divisions; six separate schools for colored scholars; sixteen evening schools culminating in a higher industrial school; and a public school library of 10,000 volumes.

The first general law was passed in 1820, but repealed in 1825 by an act 'for establishing and governing common schools' through commissioners of the school land in each township, appointed by the county commissioner and trustees in each district, which shall be laid out and constituted by the same county officers. Under this act, in a few townships, schools were opened, but nothing effectual was done until 1837, when a State fund was instituted out of the proceeds of the saline lands and the State's proportion of the United States surplus revenue. This fund has increased to \$2,253,000 in 1872.

In 1853 the office of Superintendent, which had been associated with that of Secretary of State, was made independent and elective by the people, and commissioners were appointed for each county. Under this new act the schools were multiplied, but the system did not attain any efficiency until the revision of the constitution, and the school law in pursuance thereof, in 1865. By the constitution of that year the Legislature must maintain 'common schools for the gratuitous instruction of all persons between the ages of 5 and 21 years, and establish separate schools for children of African descent.' Their supervision is vested in a Board of Education, of which Board the Superintendent is made President. 'No township can receive any portion of the public fund unless a free school shall have been kept therein for not less than three months during the year for which the distribution is made; and every child of sufficient mental and physical ability can be required to attend the public schools between the ages of 5 and 18 for a term equivalent to sixteen months, unless educated by other means.' 'To supply any deficiency in the public school fund to sustain a free school, at least four months in every

year, a property tax may be levied in each county, township, or school district, as the General Assembly shall provide. In the distribution of the State fund, any inequality in the county, town, or city local funds may be corrected.'

Under the operation of the law of 1865, the schools have increased from 4,840 to 7,547; the teachers from 6,262 to 7,881, and children in attendance from 169,270 to 280,472. But with this increase there is yet a great work to be done in Missouri. According to the census of 1870, out of 577,803 between the ages of 5 and 18 years, only 324,348 attended any school in the year preceding; and there were 146,771 persons over 10 years of age who could not read, and 222,411 (206,827 natives and over 130,000 whites) who could not write.

The State Auditor's report for 1872 gives a few items of disbursements for educational purposes: Superintendent, assistant, and contingent expenses, \$6,348; blind asylum, \$27,500; deaf mute asylum, \$29,500; State school moneys paid to the counties, \$355,427; Normal Schools (Teachers' Institutes, &c.), \$17,000; Agricultural College, \$8,500; township funds (16th section), \$2,271,582; seminary fund (university or the 36 sections), \$108,700; Congressional Agricultural College grant, 330,000 acres, with 640 acres given by Boone County.

NEBRASKA.

Nebraska was organized as a Territory in 1854, and admitted as a State in 1867, with an area of 75,995 square miles, and a population in 1870 of 122,993, and taxable property of \$56,584,616. The Constitution of 1867 provides that all 'educational funds accruing out of the sale of all lands or other property granted or intrusted to the State for educational and religious purposes, shall forever be preserved inviolate and undiminished, and the income thereof shall be applied to the specific objects of the original grants or appropriations, and no religious sect or sects shall ever have any exclusive right or control of any part of the school funds of the State.' The legislature must secure a thorough and efficient system of common schools throughout the State.

The school lands were estimated by a committee of the Constitutional Convention to exceed 3,000,000 acres, which, if sold at the minimum rate recommended, would give a permanent fund estimated by the same committee at \$15,000,000.

The system now in operation under the school law of 1866 is administered (1,) by a State Superintendent; (2,) 40 County Superintendents, one for each county, elected by the people, subject to the rules and instructions of the State Superintendent; (3,) trustees for the several districts. Teachers are examined by the County Examiners, and receive three grades of certificates running for different periods of time, according to their qualifications. The law requires a County Institute organized under the County Superintendent, and an Institute for a wider territory by the State Superintendent.

In 1870 there were 1,032 organized school districts, with 41,063 children between the ages of 5 and 21 years, of whom 23,158 attended school under 1,080 teachers, whose wages amounted to \$145,975. The cost of school-houses and value of school lots is returned at \$445,538, and the total expenditure for all purposes for the year was \$363,524.

NEVADA.

Nevada was organized as a Territory in 1861, and admitted as a State in 1864, with an area of 81,539 square miles, and a population in 1863 of 43,000, which in 1870 as given by the census, stood at 42,491, with taxable property valued at \$25,740,973.

The Constitution of 1864 enjoins the legislature 'to encourage, by all suitable means, the promotion of intellectual, literary, scientific, mining mechanical, agricultural and moral improvements, provide for the election of a superintendent of public instruction, and the establishment of a uniform system of common schools, by which a school shall be established in each school district for at least six months in each year; and any school district neglecting to establish and maintain such school, or which shall allow instruction of a sectarian character therein, shall be deprived of its portion of the interests of the public school fund during such neglect or infraction. The legislature is authorized to pass such laws as shall secure a general attendance of the children at school. The 16th and 36th sections in every township, the 30,000 acres for each senator and representative in Congress by act of 1862, the 500,000 acres granted to new States in 1841, all escheats and fines for penal offenses, shall be held and used for educational purposes, the interest thereof only to be applied as directed in the laws donating the same. 'The legislature shall provide for a State

university, which shall embrace departments of agriculture, mechanic arts and mining, and is authorized to establish normal schools and schools of different grades, from the primary school to the university, 'in which no sectarian instruction shall be imparted or tolerated.' A special tax of one half of one mill on the dollar of all taxable property, must be provided for the maintenance of the university and common schools. The governor, Secretary of State and Superintendent are constituted a Board of Regents to manage the university funds and affairs.

The school law of 1865, and amended in 1867, makes it the duty of the State Superintendent to convene an institute of teachers annually, and visit each county for the purpose of addressing public assemblies on subjects pertaining to common schools, and consulting county and other school officers. In 1870 there were 2,883 pupils out of 3,952 children between the ages of 6 and 18 years, under 53 teachers; and 727 persons over 10 years of age who can not read, and 872 who can not write.

NEW HAMPSHIRE.

By the first national census in 1790, New Hampshire had a population of 141,899, which had increased in 1870 to 318,300, on an area of 8,280 square miles, and with taxable property to the value of 149,065,290.

The first settlements within the present limits of New Hampshire were made from Massachusetts at Dover and Portsmouth in 1623, and down to 1680 all the settlements were treated as belonging to the county of Norfolk; and for brief periods afterwards it was united to Massachusetts, and the school policy of that colony prevailed generally in its legislation as an independent province. In the first constitution of New Hampshire, adopted in 1784, the language introduced by John Adams into the second section of the article on education in the constitution of Massachusetts, relating to the encouragement of literature, the sciences, and seminaries of learning, was followed literally.

In 1789 a general school law was passed, repealing all former acts on the subject, and providing: (1,) That the selectmen of the several towns and parishes shall assess annually the inhabitants of the same according to their polls and rateable estate, in a sum to be computed at the rate of five pounds for every twenty shillings of their proportion for public taxes for the time being, 'to be applied to the sole purpose of keeping an

English grammar school or schools for teaching reading and writing and arithmetic within the towns and parishes for which the same shall be assessed; except such town be a shire or half-shire town, in which case, the school by them kept shall be a grammar school for the purpose of teaching the Latin and Greek languages, as well as reading, writing and arithmetic aforesaid; and in failure to assess, collect and apply this tax in the manner set forth, the selectmen must pay out of their individual estates, for the benefit of the town schools, a sum equal to that in which they may be found delinquent,' on the requisition of the town clerk, whose duty it is made to look after this matter. (2.) 'No person shall be deemed qualified to keep a town public school, unless he shall produce a certificate from some able and reputable schoolmaster and learned minister, or preceptor of some academy, or president of some college, that he is qualified to keep such school.'

These simple and salutary provisions, coupled with another dating back to 1691, empowering the towns to build suitable school-houses by tax on the rateable estates of the inhabitants, rigidly enforced would have kept up a system of public instruction on a uniform basis over the state, when, unfortunately, in 1805 the towns were authorized to divide their territory into districts; and school districts thus constituted were authorized to provide school accommodation, appoint a local committee, and in general to manage the public school in their own way. The lack of intelligent, vigilant, and responsible town inspectors over the district schools in which the local management was left to themselves, and the establishment of academies in the large centers of population and business, which met the wants of the educated, were followed with the same real or relative deterioration which characterized the common schools of New England, generally.

The subject of school improvement attracted attention as early as 1830, in the lyceum movement conducted by Josiah Holbrook, and was continued by county common school conventions and associations begun in 1836. The first state convention was called in 1843; the first teachers' institute held in 1845; the office of state commissioner of common schools was instituted by the Legislature in June, 1846; and the duty of the State in respect to the super-

vision of schools, which it makes obligatory on the towns, has since been recognized in some form, and at present by a State Board constituting the Governor and council, and the Superintendent of public instruction acting through county commissioners, or rather through a commissioner for each of the eight counties into which the State is divided. A private Normal school was instituted in 1845 at Reed's Ferry by Prof. Wm. Russell, and a State Normal school established in 1870 at Plymouth.

To supply the want of the old town grammar school, an act was passed in 1837 giving to the town of Portsmouth, and any other town which chose to adopt the provisions of the act, authority to establish two high schools, one for males and the other for females, and provide for a graded course of studies in connection with the district schools. The same authority was given to central districts by the Act of 1848.

In 1872 there were 2,452 common schools taught in 2,284 districts, located in 232 towns, with a registered attendance of 72,672 pupils, under 3,826 teachers (3,241 females). The whole amount raised for school purposes was \$468,527, of which \$11,565 was paid the superintendents of town committees for their services. The buildings and sites of school-houses were valued at \$1,870,000. According to the census of 1870 there were 7,618 persons over ten years of age who could not read, and 9,926 who could not write.

Various attempts have been made since 1846 to protect children under fifteen years of age employed in factories and other manufacturing establishments from excessive labor, and secure to all children elementary instruction, which culminated in 1871 in 'An Act to compel children to attend school,' which ordains that all parents, guardians, or masters of any child between the ages of eight and fourteen, residing within two miles of a public school, shall send such child at least twelve weeks in each year, six of which must be consecutive, unless such child shall be excluded from such attendance on the ground of physical or mental inability to profit by such attendance; or is instructed in the same period in a private school or at home, under penalties for violation, \$10 for the first and \$20 for each subsequent offense, to be recovered as in an action of debt. A penalty attaches to school officers for not executing the law.

NEW JERSEY.

New Jersey was first settled in 1627, and adopted its first constitution as a State in 1776, with an area at that time of 8,320 square miles, and a population in 1790 of 184,139, which in 1870 had increased to 906,096, with a valuation of taxable property of \$624,868,971.

The constitution of 1776 contains no allusion to schools or education; nor prior to the colonial period was there any legislation respecting common schools. In 1816 an act to create a fund for the support of free schools was adopted, and the first distribution of its income took place under the act of 1829, passed 'to establish common schools.' By this act towns were authorized to raise money to support schools by tax, and must raise in this way a sum sufficient to entitle it to any portion of the income of the school fund; but it was not till ten years later that towns were compelled to raise a specified sum every year, nor till 1871 that the schools were made free by a State school tax of 2 mills on the valuation.

The first educational convention in the State was held in 1828, at Trenton, and from that time the subject of school improvement was agitated in county and state meetings until 1838, when a large meeting of delegates from every part of the State was held at Trenton, presided over by Chief Justice Hornblower, and the address of which to the people of the State was drawn up by Rt. Rev. Bishop Doane. From this rousing address we make a brief extract:

We address you as the sovereign people, and we say that it is your duty and your highest interest to provide and maintain, within the reach of every child, the means of such an education as will qualify him to discharge the duties of a citizen of the Republic; and will enable him, by subsequent exertion, in the free exercise of the unconquerable will, to attain the highest eminence in knowledge and power which God may place within his reach. We utterly repudiate as unworthy, not of freemen only, but of men, the narrow notion that there is to be an education for the poor as such. Has God provided for the poor a coarser earth, a thinner sky, a paler air? Does not the glorious sun pour down his golden flood as cheerily upon the poor man's hovel as upon the rich man's palace? Have not the cotter's children as keen a sense of all the freshness, verdure, fragrance, melody and beauty of luxuriant Nature as the pale sons of kings? Or is it on the mind that God has stamped the imprint of a baser birth, so that the poor man's child knows with an inborn certainty that his lot is to crawl and not to climb? It is not so. God has not done it. Man can not do it. Mind is immortal. Mind is imperial. It bears no mark of high or low, of rich or poor. It heeds no bound of time or place, of rank

or circumstance. It asks but freedom; it requires but light. It is heaven-born, and aspires to heaven. Weakness does not enfeeble it. Poverty can not repress it. Difficulties do but stimulate its vigor. And the poor tallow-chandler's son that sits up all the night to read the book which an apprentice lends him, lest the master's eye should miss it in the morning, shall stand and treat with kings, shall add new provinces to the domain of science, shall bind the lightning with a hempen cord, and bring it harmless from the skies. The common school is common, not as inferior, not as the school for the poor men's children, but as the light and air and water are common.

The office of State Superintendent was created in 1846. The first County Teachers' Association was formed for Essex County in 1847, and the State Teachers' Association was formed in 1853. The first Teachers' Institute was held at Sommerville in 1851, and provision was made for their being held by the State for the first time in 1854. The State Normal School, after years of agitation was established in 1858. Special authority to the large cities to establish graded schools was given to the city of Patterson in 1836, and subsequently extended and exercised by most of the large cities.

The school authorities are: (1,) The State Board of Education, composed of the Governor, Attorney-General, Comptroller, Secretary of State, President of the Senate, Speaker of the Assembly, and the Trustees of the State Normal School; (2,) the Superintendent of Public Instruction, who is appointed by the Board, of which he is secretary, and who, with the Principal of the Normal School, constitutes a Board of Examination; (3,) County Superintendents, appointed by the Board, who, with the City Superintendents, elected by the City Boards of Education, constitute the State Association of School Superintendents; (4,) Township Board of School Trustees.

The means to support common schools in 1871 were: (1,) the income (\$35,000) of the school fund (capital \$792,190) and State appropriation (\$65,000 to make), \$100,000; (2,) township school tax, \$44,467; district school tax, \$18,144; surplus revenue, \$31,654; two mill State school tax, \$1,168,803; appropriation for the State Normal, and Farum Schools, \$11,200;—total, for all purposes, \$2,263,070. Total valuation of school buildings and grounds, \$4,966,788.

Out of 258,227 children between the ages of 5 and 18 years, 161,683 were enrolled in public schools; of the number enrolled, 15,594 attended ten months, 21,801 eight months, 26,570 six months, 33,158 four and 63,429 less than four months.

NEW YORK.

New York, settled as early as 1609, had by the first national census of 1792, on an area of 46,000 square miles a population of 340,120, which had increased in 1870 to 4,382,759, with taxable property to the value of \$1,967,001,185.

In the first constitution of 1777 there is no reference to schools; in that of 1822, the proceeds of all State lands are appropriated to a common school fund; and in the third of 1846, the capital of several educational funds at that time existing, are declared inviolate, and their revenues must be applied to the objects to which they are donated.

In 1784, the first session after the termination of the war, an act was passed to alter the name of Kings College, in the city of New York, to Columbia College, and to erect a university. This act was superseded in 1787 by another, which instituted the Regents of the University, and provides for the incorporation by them of colleges and academies. To this board has been given from time to time, duties which cover the common schools.

The first act for the encouragement of common schools was drafted by Adam Comstock, a native of Connecticut, in 1795, by which \$50,000 were annually appropriated for five years to the several cities and towns, 'in which the children of the inhabitants residing in the State shall be instructed in the English language (taught English grammar), arithmetic, mathematics, and such other branches of knowledge as are most useful and necessary to complete a good English education.' The boards of supervisors were required to raise by tax a sum equal to one half of that appropriated by the State, to be applied in like manner. At the end of four years the appropriation was not renewed, and notwithstanding the efforts of Jedediah Peck, a native of Connecticut, and others, no efficient legislation took place till 1812.

In 1811, on the recommendation of Gov. Tompkins, a commission, with Mr. Peck chairman, was appointed to report a plan for establishing a system of common schools, which was done in 1812, after the commissioners had conferred with friends of education in different parts of the State, and studied the rise and progress of similar systems in neighboring States. The following are the outlines of their plan: 'That the several towns in the State be divided into school districts, by three commissioners,

elected by the citizens qualified to vote for town officers; that three trustees be elected in each district, to whom shall be confided the care and superintendence of the school to be established therein; that the interest of the school fund be divided among the different counties and towns, according to their respective population, as ascertained by the successive census of the United States; that the proportions received by the respective towns be subdivided among the districts into which such towns shall be divided, according to the number of children in each, between the ages of 5 and 15 years; that each town raise by tax annually as much money as it shall have received from the school fund; that the gross amount of moneys received from the State and raised by the towns be appropriated exclusively to the payment of the wages of the teachers; and that the whole system be placed under the superintendence of an officer appointed by the Council of Appointment.'

These features were embodied in the act of 1812, and under the careful administration of Gideon Hawley, a native of Connecticut, as superintendent, the system went into operation, to gather strength and expansion from year to year, and contribute by its beneficent results to the establishment and improvement of common schools in other States.

In 1839, the superintendent (John C. Spencer) was authorized to appoint a County Board of School Visitors to serve gratuitously in their several counties, and so favorably received were the reports of these school visitors, that in 1841 the legislature, by a nearly unanimous vote, provided for the appointment by the Board of Supervisors for each county, biennially, of a County Superintendent, charged with the general supervision of the interests of the several schools under his jurisdiction. No previous act had imparted such general activity to school affairs as this; but in 1847 the office was abolished, and the supervision of the schools, examination of teachers, the appointment and disbursement of the school fund, were intrusted to a single officer in each town. In 1857, the operation of town supervision proving unsatisfactory, provision was made for the appointment of School Commissioners in districts. There were 135 city and district commissioners in 1871.

The law of 1812 provided for the support of schools out of the income of the school

fund and a tax upon the towns equal to its distributive share of the school money, at first optional, but afterwards obligatory, through the county tax. In 1814, the trustees of the district were authorized to supply any deficiency in the means to pay the wages of teachers, by collecting it from the parents or patrons of the school in proportion to the attendance of their children. In 1849, the rate bills were abolished, leaving the deficiency, after applying the public money to the payment of teachers' wages, to be made up by district taxation. This act was submitted to the people, and approved by a vote of 249,872 in its favor, and 91,151 against it. In 1850 the Free School Act, as it was called, was repealed; but being again submitted to the people, the act itself was sustained. In 1851 the law was repealed, and the State taxation of \$800,000 was levied, to be distributed with the school moneys in the support of schools, instead of the county tax, equal in amount to the annual distribution from the school fund. In 1856, to the State tax of \$800,000, a levy of three-fourths of a mill upon every dollar of real and personal estate was made, which has since been increased to one and one-fourth of a mill, yielding in 1872 the net sum of \$2,565,672.

To secure the services of well qualified teachers, and to exclude the incompetent and immoral, was a primary object with the commissioners who reported the original school law of 1811. This they aimed to effect by the appointment of inspectors to whom the examination of all candidates was given, and without whose certificate no teacher could be legally employed. This mode tested the attainments of candidates, but provided no way in advance of actual experience of acquiring the requisite knowledge whereby better qualifications could be had of principles and methods of teaching. To remedy this, Gov. Clinton in 1825 and in 1826 recommended a 'seminary for the education of teachers in those useful branches of knowledge already introduced in all our common schools,' and in 1828 he urges the establishment in each county of a Monitorial High School (after the model of one in Livingston County, under the charge of C. C. Felton—afterwards President of Harvard College), 'in which better methods of teaching shall be at once taught and exemplified.' In 1826, Mr. John C. Spencer, from the Literature Committee of the Senate (to

whom the recommendations of the Governor had been referred), recommended that the income of the Literature Fund should be divided among the academies, not in proportion to the number of classical students, but to the number of 'persons instructed in each, who shall have been licensed as teachers of public schools by the proper board.' In 1827, Mr. Spencer, from the same committee, reported an act by which the Literature Fund was increased for the avowed purpose in the preamble 'of promoting the education of teachers,' 'the incompetency of the great mass of whom is radical and defeats the whole system, and the hopes and wishes of all who feel an interest in disseminating the blessings of education.'

In 1834, a portion of the income of the Literature Fund was set apart 'to be distributed by the regents to such academies, subject to their visitation, as will provide for the education of teachers for the common schools.' Under this provision, one academy was selected in each of the eight senatorial districts, in which was erected a department devoted to this particular work, known as the Teachers' Department; and in 1838, by an act appropriating the income of the United States Deposit Fund for the purposes of education, \$28,000 was appropriated to the several academies on condition that 'the academies receiving any of its distributive share equal to \$700 should establish and maintain a department for the instruction of common school teachers.' Under this provision the number of academies with this special course for teachers was increased to fifteen; and in 1871, under a revision of the previous legislation on the subject in 1855, 'the science of common school teaching' was taught to 'teachers' classes' in 87 academies, with a total attendance of 1,494 pupil teachers.

In 1840, Prof. Potter, of Union College (afterwards Bishop Potter, of Pennsylvania), in a special report founded on a personal visit to the academies having teachers' departments, recommends 'the establishment of one institution at the capital, devoted exclusively to the education of teachers.' The same recommendation was indorsed by the superintendent (John C. Spencer), in his report to the legislature of that year. In 1844, the committee on colleges, academies, and common schools, in the House of Representatives, through the chairman (Mr. Hulburt), after visiting the Normal Schools

of Massachusetts reported a bill to establish a Normal School at Albany 'for the instruction and practice of teachers for common schools in the science of education and in the art of teaching,' appropriating \$10,000 annually for five years for its support. This school, in a building furnished gratuitously by the city of Albany, went into operation in December, 1844; and, after a successful trial of four years, received in 1848 from the state a special appropriation to provide permanent accommodations, and an annual appropriation of \$12,000 for its support. In 1863, aid was extended to the Training School at Oswego, which was formally recognized a State Normal School in 1866; and in 1864, provision was made for six other institutions located in different parts of the State; the citizens of Brockport, Fredonia, Cortland, Potsdam, Geneseo, and Buffalo having furnished suitable buildings at an aggregate expense of \$500,000. The value of the grounds, buildings, and equipment of the State Normal Schools is estimated \$829,739, and the annual expense to maintain them, at \$150,000. With the Normal pupils are large schools and classes of children whose exercises are made subsidiary to the main object of the institution. In 1872, there were 5,807 students in attendance on the different departments of the 8 Normal schools.

In 1839, Francis Dwight secured the consolidation of all the school districts in Geneva, and inaugurated the union or graded system in New York; and in 1840 issued the first number of the District School Journal, a copy of which the superintendent obtained authority to send to every school district.

By the Union Free School Act of 1853, cities and villages divided into districts were enabled to consolidate for the purpose of maintaining graded schools, and for making them free in advance of the general free school act of 1867. Under the operation of this act, more than ninety academies included within the limits of such districts were absorbed into the general system, becoming the High Schools of the united districts. The whole number of such schools in 1870 was 694.

In 1835, the first legislative provision for school libraries was made. To James Wadsworth of Geneseo, a native of Connecticut, belongs the credit of originating the system of district school libraries. In 1811, in a

letter addressed to one of the commissioners appointed by Gov. Tompkins to report to the legislature a system for the organization and establishment of common schools, Mr. Wadsworth (after giving the outline of the system of common schools actually adopted), suggested that 'it should be made the duty of the State Commissioner to send to the school inspector of each town a "Lancaster Manual," containing observations on teaching and school government, and thus diffuse throughout the State the latest and most practical information as to approved methods.' In 1832 he was instrumental in securing the distribution of a copy of "Hall's Lectures on School Teaching," to each school district (9,000), and in 1833 recommended the incorporation into the school act of a provision authorizing a majority of the voters 'to raise by a tax on the property of each district \$15 or \$20 as a commencement of, and \$5 or \$10 annually, as a perennial spring, to purchase and sustain a school library,' until 1835, when the foundation of the district school library was laid by the passage of an act giving the authority as above suggested. To secure a beginning in this direction, Mr. Wadsworth offered to pay one-fourth of the \$20 to all districts in Avon and Geneseo, and then offered \$20 to the first five districts in Henrietta which should adopt the same, and employed the Rev. Mr. Page to give lectures on the subject, in all towns of Livingston County, and in other sections. In 1838 he labored to secure the appropriation of a portion of the income of the United States Deposit Fund for the same purpose, and through the exertions of the Hon. G. W. Patterson, who was then Speaker of the House, and the Hon. D. D. Barnard, chairman of the committee, this was accomplished, and \$55,000 was annually appropriated for the purpose. To his labors in this direction should be added the publication, at his expense, of *The School and the Schoolmaster*—the first prepared by Prof. Alonzo Porter, and the last by George B. Emerson of Boston, and the distribution of over 15,000 copies, one to each school district, and to town and county school officers. Mr. Wadsworth also paid the expense of the American edition of Cousin's *Report on the School System of Prussia* in 1834, and aided J. Orville Taylor in the publication of the *Common School Advocate* from 1835 to 1838.

The common schools are situated in

11,350 districts, taught in houses which, with their sites, are valued at \$23,468,266, accommodating 1,028,147 children in attendance some portion of the year (to which should be added 5,807 in normal schools, 30,370 in academies, 3,194 in colleges, 135,433 in private schools), taught by 28,217 teachers (21,668 females). The average daily attendance of children attending the common schools is placed at 493,648.

The means for the support of schools for the year 1872 were derived from the following sources, viz., The Common School Fund (\$3,004,513), \$170,000; United States Deposit Fund (\$4,414,520), income \$165,000; State school tax ($1\frac{1}{4}$ per cent. on the valuation), \$2,610,784; by local tax, \$6,552,994, making a total of \$10,874,910. Among the items of expenditure we find, for the wages of common school teachers, \$6,510,164; district school libraries, \$30,917; school apparatus, \$179,156; colored schools, \$678,582; school construction and furniture, \$1,982,547; incidental expenses, \$1,164,142; appropriation for academies, \$44,646; teachers' classes in academies, \$15,345; Teachers' Institutes, \$16,171; Normal Schools, \$128,723; Cornell University, \$25,000; Indian schools, \$6,837; superintendent of public instruction, \$18,127; regents of universities, \$6,349; printing registers for school districts, \$13,000. To these items should be added the following not included in the aggregate above given: deaf and dumb institution, \$103,923; institution for the blind at New York, \$39,903; institution for the blind at Batavia, \$40,500; state asylum for idiots, \$50,000; orphan asylums, \$9,000; school commissioners' salaries, \$90,187; state reformatory at Elmira, \$198,000.

The enormous sums expended for the common schools of New York will be realized in the fact that from 1850, when the school expenditure was \$1,607,684, to 1872, when the total expenditure was \$9,607,903—a period of 22 years—the aggregate expenditure was nearly \$106,146,344.

In 1825, orphans in special asylums were first recognized as entitled to the distribution share of any money appropriated to common schools, which is now made the basis of the special appropriation in their behalf to the amount, in 1871, of \$472,760.

In 1866, the superintendent was charged with providing schools for the Indian children, which in 1871 numbered 1,073, in 27 schools, at a cost of \$8,559.

The system of common schools rests on territorial subdivisions of the State known as School Districts, whose boundaries are defined and altered by the School Commissioner, and on Union Free School Districts, formed with special powers under the act of 1853, and the City Districts created by special acts.

The officers intrusted with the administration of the system, beginning at the lowest point, are:

1. *District Trustees*—composed of one or three, as the district may decide. The three act as a board, and the sole trustee has the same power as a board of three. These powers and duties are: to call meetings; to make out tax lists and warrants; to purchase sites, and build or hire school-houses; to insure district property; to have the custody and safe keeping of the school-house and other property; to contract with and employ teachers, and pay them; and generally to attend to all the business of the district. They must make in October of every year, a return in form and substance as required by law, to the School Commissioner, as the basis of all school statistics, and such other information as the State Superintendent may from time to time require. There is also a district clerk, collector, and librarian.

2. *Town Clerk for each town*—is required to keep in his office all books, maps, papers, and records touching schools; to record in a book the certificate of apportionment of school moneys; to notify the trustees of the filing of such certificate; to obtain from trustees their annual reports; to furnish the School Commissioner with the names and post-office address of all district officers; to distribute to trustees all books and blanks forwarded to him for their use; to file and record the final accounts of supervisors; to preserve the supervisor's bond; to file and keep the description of district boundaries; and when called upon, to take part in the erection or alteration of a school district. The supervisor for each town receives all moneys destined for school purposes in the town, and disburses according to law and the special direction of the State Superintendent.

3. *School Commissioners*—elected for certain districts originally established by boards of supervisors, but now determined by law to the number of 112 for the State. They have power, and it is their duty, to see that the boundaries of districts are correctly described; to visit and examine the schools; to advise with and counsel the trustees; to look after the condition of the school-houses, and condemn such as are entirely unfit for use; to recommend studies and text-books; to examine and license teachers; to examine charges against teachers, and, on sufficient proof, annul their certificates; and when required by the Superintendent, to take and report testimony in cases of appeal. It is also their duty, annually, to apportion and divide among the districts the school moneys apportioned to their respective counties by the Superintendent of Public Instruction.

4. *Department of Public Instruction*.—The head of this department is the State Superintendent, which office was originally independent, but in 1822 as such, was abolished and its duties assigned to the Secretary of State, who performed them through a special clerk or deputy, until 1854, when it was again separated and instituted into the Department of Public Instruction. The superintendent is elected by joint ballot of Senate and Assembly. He holds

office for three years; has general superintendence of the public schools, visits them, inquires into their management, and advises and directs in regard to their course of instruction and discipline. He apportions and distributes the public moneys appropriated by the State for the support of schools; examines the supplementary apportionments made to all the districts by the School Commissioners, and sees that to each district is set apart its proportionate share, and that the same is expended by the trustees, and paid by the supervisors of towns, according to law. He gives advice and direction to school officers, teachers, and inhabitants upon all questions arising under the school laws. He establishes rules and regulations concerning appeals. He hears and decides all appeals, involving school controversies, that are brought before him, and his decision is final. He is charged with the general control and management of Teachers' Institutes in the several counties of the State; is authorized to employ teachers and lecturers for the institutes, and to pay them, and to certify the accounts for expenses incurred by the commissioners in conducting the same. He is required by the law to visit the institutes, and to advise and to direct concerning their proper management. He establishes rules and regulations concerning district school libraries; he makes appointments of State pupils to the institutions for the instruction of the deaf and dumb and for the blind, upon the certificate of the proper local officers; and he visits and examines into the condition and management of these institutions. He is chairman of the executive committee of the State Normal School at Albany, and apportions among the counties the number of pupils to which each is entitled. He is one of the board for the selection of the places in which to establish any additional Normal Schools. After the schools are established, he has general supervision and direction of them; he appoints the local board to manage them; he approves the rules for their government; he directs the form of their reports; and all payments for their support are paid upon his certificate. He approves the course of study; the number of teachers and their wages are subject to his approval; he can cause one or more of the schools to be composed of males, and one or more of females, in his discretion; and he decides upon the manner in which pupils shall be admitted from the several parts of the State. He has similar powers over the Oswego Normal School, and six similar schools since established. He has charge of all the Indian schools in the State, employs local agents to superintend them, visits them, and directs concerning the erection and repair of their school-houses, and determines the branches of instruction to be pursued in the schools. He is, *ex-officio*, a Regent of the University and chairman of the committee on teachers' classes in academies. He is also, *ex-officio*, a member of the Board of Trustees of the Idiot Asylum, and the Cornell University. He receives and compiles the abstracts of the reports from all the school districts in the State, setting forth their condition and proceedings, and the account of receipts and expenditures for each year. He makes, annually, to the legislature a report of the condition of all the schools and institutions under his supervision, and recommends such measures as, in his judgment, will contribute to their welfare and efficiency.

NORTH CAROLINA.

North Carolina was first settled in 1653, and in 1720 had on an area of 45,000 square miles a population of 393,751 (100,573 slaves), which in 1870 had increased to 1,071,361 (391,650 colored), with \$624,868,971 taxable property.

The first official allusion to the want of schools in North Carolina is believed to have been made by Governor Johnston, a native of Scotland, in his address to the Legislature, in Edenton, in 1736; and the first effectual act for the encouragement of literature was a law passed in 1762, for the erection of a school-house in the town of Newbern. A similar law applicable to the town of Edenton was passed next year.

In 1770, an act for founding, establishing, and endowing Queens Collège in the town of Charlotte, Mecklenberg County, was repealed by royal proclamation, and its re-enactment in the year following met with the same fate. In 1776 this county, in advance of the Continental Congress at Philadelphia, declared the State forever absolved from allegiance to the British Crown, and in the year following incorporated 'the President and Fellows of *Liberty Hall*, in the County of Mecklenberg,' with the following preamble: 'Whereas, the proper education of youth in this infant community is highly necessary, and would answer the most valuable and beneficial purposes to this State and the good people thereof; and whereas, a very promising experiment hath been made at a seminary in the County of Mecklenberg, and a number of youths there taught have made great advancements in the knowledge of the learned languages, and in the rudiments of the arts and sciences, in the course of a regular and finished education, which they have since completed at various colleges in different parts of America; and whereas, the seminary aforesaid, and the several teachers who have successively taught and presided therein, have hitherto been almost wholly supported by private subscriptions, in order therefore, that said subscriptions and other gratuities may be legally possessed and duly applied, and the said seminary, by the name of *Liberty Hall*, may become more extensively and generally useful, for the encouragement of liberal knowledge in languages, arts, and sciences, and for diffusing the great advantages of education upon more liberal, easy, and generous terms,' &c.

The institution was born in stormy times, and the enterprise, after the trustees made several ineffectual attempts to get a president from Princeton College, and sufficient funds, was abandoned.

In the State Constitution, framed at Halifax in December, 1776, they provided 'that a school or schools shall be established by the Legislature for the convenient instruction of youth, with such salaries to the masters, *paid by the public*, as may enable them to instruct at low prices; and all useful learning shall be encouraged in one or more universities.' The establishment of public schools was thus expressly enjoined upon the Legislature; and the order in which the public school and the university is mentioned, shows the connection and dependence which the framers of the Constitution thought should exist between them. The language was mandatory,—'schools shall be established by the Legislature.' The schools were to be fit, 'convenient,' accessible to all; and the salaries to the masters were to be '*paid by the public*.' They provided, first, in the organic law, for the instruction of the children of the people at the public charge; and secondly, for 'one or more universities,' in which 'all useful learning' should be encouraged. In 1789, the University of North Carolina was established and endowed, but no provision was made for common schools. Speaking of this period, Judge Murphey, in an address in 1827, remarks:

'The number of our literary men has been small when compared with our population; but this is not a matter of surprise when we look on the condition of the State since the close of the Revolutionary War. When the war ended, the people were in poverty, society in disorder, morals and manners almost prostrate. Order was to be restored to society, and energy to the laws, before industry could repair the fortunes of the people; schools were to be established for the education of youth, and congregations formed for preaching the gospel, before the public morals could be amended. Time was required to effect these objects; and the most important of them, the education of youth, was the longest neglected. Before this university went into operation in 1794, there was not more than three schools in the State, in which the rudiments of a classical education could be acquired. The most prominent and useful of these

schools was kept by Dr. David Caldwell, of Guilford County. He instituted it shortly after the close of the war, and continued it for more than thirty years. The usefulness of Dr. Caldwell to the literature of North Carolina will never be sufficiently appreciated; but the opportunities of instruction in his school were very limited. There was no library attached to it; his students were supplied with a few of the Greek and Latin classics, Euclid's Elements of Mathematics and Martin's Natural Philosophy. Moral Philosophy was taught from a syllabus of lectures delivered by Dr. Witherspoon in Princeton College. The students had no books on history or miscellaneous literature. There were, indeed, very few in the State, except in the library of lawyers who lived in the commercial towns. I well remember, that after completing my course of studies under Dr. Caldwell, I spent nearly two years without finding any book to read except some old works on theological subjects. At length I accidentally met with Voltaire's history of Charles the Twelfth of Sweden, an odd volume of Smollett's Roderick Random, and an abridgement of Don Quixote. These books gave me a taste for reading, which I had no opportunity of gratifying until I became a student in this university in the year 1876. Few of Dr. Caldwell's students had better opportunities of getting books than myself; and with these slender opportunities of instruction, it is not surprising that so few became eminent in the liberal professions. At this day, when libraries are established in all our towns, when every professional man, and every respectable gentleman has a collection of books, it is difficult to conceive the inconveniences under which young men labored thirty or forty years ago.'

The following extract from the number of the North Carolina Journal for the 22d of June, 1795, seems to present a brighter picture of the advance of public education, but it will be seen that the limited number of academies named, and the great importance attached to the fact that they were able to prepare youths for an entrance into college—itself at that time hardly in advance of the high schools of the present day, denote no very high degree of literary attainments, and would hardly in our times be esteemed worthy of a newspaper article.

'We have the pleasure to announce to the public that the Academy at Thyatira,

erected and conducted by Dr. McCorkle; the Warrenton Academy, under the management of the Rev. Mr. George; and the Chatham and Newbern academies, are all in a very flourishing state. The high reputation and great experience of the gentlemen who have the direction of these seminaries will insure their establishment and success, and furnish annually a large number of students prepared to enter at once at the university upon the higher branches.

From 1789 to 1825, though the 'old-field' or English schools were multiplied, and a few academies and high schools were established, no provision was made for common schools. In 1816, Hon. Archibald D. Murphey, of the county of Orange, then a member of the State Senate, made an able and highly interesting report to that body on the subject of public instruction, urging the establishment of common schools, and also of an institution for the deaf and dumb. The report concluded with a resolution authorizing the speakers of the two houses to appoint three persons to digest a system of public instruction, and submit the same to the next General Assembly. The report and resolution were adopted; and subsequently, and it is presumed under this resolution, Duncan Cameron and Peter Browne, Esqrs., and the Rev. Joseph Caldwell, the President of the University, were charged with this duty. The committee never met, but a report was prepared by their chairman, and laid before the Assembly. In 1818, Mr. Murphey made another report, more in detail and more practical.

'In 1825, the Legislature passed the first act on the subject,—'An Act to create a fund for the establishment of common schools.' To Bartlett Yancey, of the county of Caswell, is due the high distinction of having conceived and penned the first act for the establishment and promotion of common schools. This act set apart for the purpose certain stocks, the vacant and unappropriated swamp lands, the tax on auctioneers, retailers of ardent spirits, &c.—'the *parings* of the treasury,' as they were called by Mr. Yancey himself. But the funds accumulated slowly, and the friends of the system went to work by tongue and pen to increase the fund, and thus obtain means for starting the schools. Foremost among these was the Rev. Joseph Caldwell, a scholar, a philosopher, a statesman, and a christian. He wrote, and caused to be pub-

lished at his own expense, in 1832, a series of 'Letters on Popular Education, addressed to the People of North Carolina;' in which he examined the whole subject with great care, showed the importance of educating *all* the children of the State, and urged the people to instruct their representatives to take early and effectual steps in this, their highest temporal concern.

'In 1836, another act was passed, organizing 'a Board of Literature,'—providing for draining the swamp lands, and still further increasing the school fund. The public mind now began to be generally aroused on the subject; and several able papers, advocating public instruction, were presented to the Legislature in 1838,—one by the president and directors of the literary fund, and one by Mr. W. W. Cherry, of Bertie, being a report of his as chairman of the committee on education. In 1837 the State received on deposit from the General Government, under the deposit act of 1836, the sum of \$1,433,757.39, which was invested for the benefit of common schools, and increased the permanent fund to about \$1,732,000, exclusive of swamp lands.

In 1838, a bill drawn by Mr. W. W. Cherry, providing for laying off the State into school districts, and for submitting the question of 'school' or 'no school' to the people of the respective counties, was passed. The act embraced the present plan of requiring each county to raise one dollar for every two dollars distributed by the literary board. In 1839 nearly all the counties adopted the system; and in 1841 *it was put into full operation.*

In 1852, C. H. Wiley was appointed State Superintendent, and on the breaking out of the war of secession, in 1861, had inaugurated a system of common schools which was adapted to the social and political habits of the people, but perished in the disturbances which followed.

In the constitution of 1868 it is made the duty of the legislature 'to establish a general and uniform system of public schools, free to all the children of the State between the ages of 6 and 21. In 1869 a system was inaugurated which is yet laboring with the difficulties of a disorganized society—social and industrial, and with details of organization foreign to the general policy and habits of the people. Out of 99,114 persons between 6 and 21 years, 29,303 were estimated to be in 1,393 public schools.

OHIO.

Ohio remained a portion of the territory northwest of the River Ohio, in which the old Congress of the Confederation began in 1787, its beneficent policy of incorporating 'schools and the means of education' among the organic elements of civil society, and laid the foundation of numerous States of imperial dimensions and industrial resources, in impartial freedom, morality, and knowledge, until 1799, when it was organized as a distinct territory, and admitted into the United States in 1802, with an area of 39,964 square miles, and a population in 1800 of 45,365, which had increased in 1870 to 2,665,260, with a taxable property returned to the value of \$1,167,731,097.

In the plan of settlement in 1785, the public lands were surveyed into townships of *six miles square*, containing 36 *sections* of one mile square of 640 acres each, one of which was reserved for public schools. The act of Congress passed April 30, 1802, 'to enable the people of the eastern division of the Territory Northwest of the river Ohio, to form a constitution and State government, and for the admission of such State into the union, provides that section numbered 16 in every township, and where such section has been sold, granted, or disposed of, other lands equivalent thereto and most contiguous to the same, shall be granted to the inhabitants of such townships, for the use of schools.' Other special tracts were granted to the State, or reserved from ordinary purchase, were vested in the legislature in trust for schools. The entire land surface of Ohio was 25,576,969 acres, the land grants and reservations for schools amounted to 710,500, exclusive of two townships reserved for a university. In spite of these beneficent provisions, and of the school habits of many of the families among the original settlers, the institution of public schools in a new country, in sparsely populated townships, with scanty resources, where roads and dwellings were of immediate physical necessity, was slow. The constitution of 1802 enjoins that 'religion, morality, and knowledge being essentially necessary to good government and the happiness of mankind, schools and the means of instruction shall forever be encouraged by legislative provision, not inconsistent with the right of conscience.' Notwithstanding repeated and urgent recommendations by successive governors in their annual messages, the visible benefits of such schools as the

first settlers from New England established by voluntary subscription for their children, and the labors of a few men like Ephraim Cutter, Caleb Attwater and Nathan Guilford, it was not till 1825 that a general school law was passed. In this, the principles of taxation are recognized, but no efficient plan of supervision and providing good teachers was adopted. In 1831 the teachers and active friends of schools organized an association called the college of teachers, which began in their annual gatherings the work of school agitation. In 1835, the legislature required school returns from the county auditors, and Prof. Calvin E. Stowe, of the Lane Theological Seminary at Cincinnati, who was about to visit Europe, was appointed to report on the elementary school systems of Prussia and other European States, which was made, and printed in 1837, and produced a profound impression, not only in Ohio, but in other States. In 1836, Samuel Lewis, of Cincinnati (a native of Massachusetts) was appointed State Superintendent with a salary of \$500. With experience as a public speaker, with much study of the schools of Cincinnati, and a participant in the discussions of the College of Teachers, Mr. Lewis made great pecuniary and personal sacrifices, and entered on the work of official exploration of schools and agitation of educational topics among the people, in the spring of 1837. He found, 'out of Cincinnati there were no public schools worthy of the name, practically open to rich and poor, and nearly half of the organized school districts were without school-houses, and that not one-third of the whole number would be appraised at \$50 each.'

Mr. Lewis's report on the deficiencies of public schools in Ohio, and Prof. Stowe's glowing picture of elementary instruction in Prussia, carried triumphantly through the legislature, in spite of bitter opposition, an act, which made the office of superintendent permanent, created a State School Fund, imposed a county tax of two mills for the support of schools, and authorized district taxation for school-houses, required reports from school teachers, and town and county officers, gave incorporated towns and cities a board of education, with power to establish a public school of a higher grade, and provided county examinations for candidates for the office of teacher. This was the beginning of a state system with some elements of vitality and efficiency in its organization. Mr Lewis entered on its administration in

May, 1838, by issuing the *Common School Director*, and announcing his intention to visit every county, and inviting school officers, teachers, and friends of education to meet him, and as editor and lecturer, 'with his office and head-quarters in the saddle,' he did a work for 1838, for practical results, second to that of no other laborer in the educational field, before or since. In 1839, after making a third report, and a special report on a State university for teachers, Mr. Lewis resigned, with health impaired, without a dollar of compensation for three years hard work, his entire salary having been exhausted in travel and other expenses of his office, but with the consciousness that he had increased the number of schools reported from 4,336 to 7,225, and the value of school-houses from \$61,890 to \$206,445, and had laid the foundations of a system, which in 1872 reported 11,565 school-houses erected at a cost of \$17,168,196, which accommodated 694,348 pupils in enrolled attendance, who employed 22,061 teachers, and required the expenditure for the year of \$7,150,856.

The system has been wrought up to its present degree of efficiency mainly through the teachers of the State acting through the State Teachers' Association. In no other State have the teachers engineered their own work so successfully as in Ohio; and yet the census of 1870 shows an amount of illiteracy in the population over 10 years old sufficiently alarming, viz., 92,720 who can not read, and 173,172 who can not write.

In January 18, 1843, in Columbus, a plan of school improvement was presented by Henry Barnard of Connecticut, to the Western College of Teachers, and to members of the Legislature—afterwards at Cincinnati and Sandusky—which resulted in the passage of an Act to facilitate the consolidation of school districts, and the organization of Union Schools; the holding of a Teachers' institute at Sandusky; the bringing of Dr. A. D. Lord from Kirtland to become the principal of the High School and Superintendent of Public Schools of Columbus; to the publication of a school journal at the Capital, and a series of measures which led finally to the employment of Lorin P. Andrews, as the agent of the Ohio Teachers' Association. The first Teachers' Institute was held at Sandusky, under the auspices of Chief Justice Lane, at the suggestion of Mr. Barnard, by Hon. Salem Town.

The following items, taken from official documents for 1872, show the magnitude of the educational expenditures of Ohio; State Commissioner, clerks, &c., \$5,169; local management and county superintendents, \$129,615; school sites, buildings, and equipment, \$1,428,964; teachers' wages—primary schools, \$3,898,156; teachers' wages—high schools, \$321,406; total \$4,219,563; contingent expenses, \$1,639,214; total for common school purposes, \$7,383,856; institution for deaf and dumb, \$63,405; institution for blind, \$111,816; institution for idiots and feeble minded, \$52,722; State home for soldiers' orphans, \$114,009; reform farm school for boys, \$45,000; industrial school for girls, \$26,553.

OREGON.

Oregon was organized a Territory in 1848, and admitted a State in 1859 with an area of 95,274, and a population in 1860 of 52,405, which had increased in 1870 to 90,923, with \$31,798,510 of taxable property.

By the constitution of 1857, the governor is made superintendent of public instruction for the term of five years, after which the legislative assembly may provide by law for his successor. The proceeds of all lands granted to the State for educational purposes, except the university land, all money which may accrue to the State by escheat or forfeiture, exemptions from military duty, from the sale of the 500,000 acres reserved by act of 1841, and of the five per centum of net proceeds of the sales of the public lands on the admission of the State into the Union, shall constitute an irreducible fund for the support of common schools in each school district, and the purchase of suitable libraries and apparatus therefor. The school lands amount to 4,475,966 acres.

In the act of 1862, provision is made for the election of a school superintendent for each county, and for three directors for each district.

According to the census of 1870 there were 18,096 persons, out of a school population of 29,400 attending school, and 1,047 persons over 10 years of age who could not read, and 2,064 who could not write. The same census returns 637 schools of all kinds, of which 4 were public high with 502 pupils, 590 common schools with 27,000 pupils, 16 academies with 1,600 pupils, 2 colleges with 298 pupils, 1 school of medicine, 1 agricultural college and 2 commercial schools.

PENNSYLVANIA.

Pennsylvania was first settled in 1638, and by the first national census of 1790, on an area of 46,000 square miles, had a population of 434,373, which in 1870 had increased to 3,521,790, with taxable property to the value of \$1,243,367,852.

The first constitution adopted in 1776 had no provision respecting schools, and that of 1793 enjoined 'the legislature as soon as conveniently may be, to provide by law for the establishment of schools throughout the State, in such manner that the poor shall be taught gratis.' In 1838, an attempt in the convention which framed the constitution of that year, to amend this provision so 'as to provide by law for the establishment of common schools throughout the State, in such a manner that all persons residing therein may enjoy the benefits of education,' failed, leaving the provision as in 1793.

The first general school law was passed in 1819, expressly 'to provide for the poor gratis,' in which with minute definition of such as are entitled to the benefit of this act, viz., 'of children between the ages of five and twelve years, whose parents are unable to pay for their schooling, and excluding all children whose education is otherwise provided.' A list of these children, made out by the assessors of each township, corrected by the commissioners of the county, is sent to teachers of schools within the township, with instructions to enter against the names of such children on this list as apply for tuition, the number of days they may attend or be taught, and send in their bill for the same to the county commissioner.

The first act, under which any demonstration of what public schools could become, was special for the city and county of Philadelphia, by which a broad and beneficent system of public instruction has been developed, was adopted in 1818. By this act, in 1871, 414 schools (viz., 1 Boy's Central High School or College, 1 High and Normal School for Girls, 58 Grammar schools, 142 Intermediate schools, 186 primary schools and 26 night schools), with 87,428 scholars, 1,668 teachers (79 male and 1,589 female teachers, supported at a cost of \$1,370,705. The valuation of school property in 1872 exceeded \$3,000,000.

The first provision for general education for the State was made in 1831, which the supplementary acts of 1834, 1835, 1836 and 1837 has developed into an efficient system

of public schools, for which much is due to the wise organization and administration, and the judicious publications of Thomas H. Burrowes of Lancaster, who became the first Superintendent of Public Schools as Secretary of State in 1834. This office was made independent in 1857. County Superintendence were first organized in 1854, and the first State Normal School in 1857. The State Teachers' Association was organized in 1852; the first School Journal was published in 1836, and the Pennsylvania School Journal in 1852; the first Teachers' Institute was held in 1849, and the attendance has increased from 3,704 teachers in 1866 to 11,890 in 1871.

The following items from the Report of the Superintendent (J. P. Wickersham) for 1872, illustrate the magnitude of the operations of the system of common schools: The total expenditure was \$8,345,072. This sum supported 15,999 schools in 2,029 cities and towns; paid 18,368 teachers, for 834,313 pupils, in buildings which with their grounds and equipments have an estimated value of \$18,689,624; and employed in the district management and county superintendence, 13,541 persons.

To the above expenditures for common schools in cities, villages and rural districts should be added \$475,245 paid to thirty-seven institutions (existing asylums mainly under religious denominations) for the support and instruction of 3,527 soldiers' orphans, which has already cost the State \$3,467,543; \$54,000 for the instruction of the mute, \$70,000 for the instruction of the blind; \$28,000 for training feeble minded children; \$10,000 for friendless children; \$71,900 for juvenile offenders; \$11,500 for Lincoln University; \$25,000 to the University of Pennsylvania.

The following outline of the system of common schools in operation in 1871 is taken mainly from the Report of the Superintendent for that year:

(1.) *Districts and District Officers.*—Each township, borough, and city is made by law a school district. The districts thus formed are the only ones except a small number of what are called 'independent districts,' with a single school, formed out of parts of adjacent counties, otherwise badly accommodated with schools. Outside of cities and boroughs, the school districts have from one to thirty schools, the average number being about seven. The power of levying and collecting taxes, building and furnishing school-houses, employing and paying teachers, selecting text-books, and managing the schools generally, is vested in a board of six directors, two of whom are elected annually at the regular local elec-

tions. The courts have power to remove directors for the non-performance of duty, and the State Superintendent can refuse to pay a district its quota of the annual State appropriation, if its directors do not keep the schools 'open according to law.'

(2,) *Superintendents for Towns, Cities, and Counties.*—The directors of a district are authorized by law to appoint and pay a District Superintendent, and to require the Teachers in their employ to hold a District Institute. Each board is compelled to make an annual report to the State Superintendent through the agency of the proper County Superintendent, who must approve it, accompanied by a sworn statement to the effect that the schools of the district have been kept open and in operation according to law, and specifically declaring that no teacher has been employed during the year who did not hold a valid certificate, and that the accounts of the district have been legally settled. Failing to make such a statement works a forfeiture of the State appropriation.

The school directors of each county, and of each city and borough having over 7,000 inhabitants, as may choose to do so, meet in convention triennially, at the call of the State Superintendent, to elect a superintendent and fix his salary. The directors fix the salary of the office absolutely, but they are limited in their choice of a person to fill it, to persons having certain scholastic and professional qualifications, of the sufficiency of which the State Superintendent is to judge before he issues the commission. The State Superintendent pays the salaries of the County Superintendents and fills all vacancies in the office by appointment.

The duties of the superintendents of counties, cities, and boroughs are to examine and certificate teachers, visit schools, give instruction to the teachers, hold institutes, and supervise generally the school interests intrusted to their care. They make monthly and annual reports to the School Department.

(3,) *Teachers and their Certificates.*—No person can be employed to teach in a common school who does not hold a legal certificate in one of the forms which are granted as follows:

A provisional certificate, which is a mere license to begin to teach. It is good only in the county where issued, and for a single year. A scale of figures from one to five is used in filling up this certificate, to denote degrees of proficiency in the several branches.

A professional certificate, which is a license to teach in the county where issued for the term of the Superintendent granting it, and for one year thereafter. It is granted to any good teacher who can pass an examination in orthography, reading, writing, arithmetic, geography, grammar, history of the United States, and the theory of teaching.

A permanent certificate, which is granted by this department to teachers holding professional certificates, whose application therefor is indorsed by the proper superintendent, the proper board or boards of directors, and by a county committee of teachers elected by ballot for this purpose at the Teachers' Institute. This certificate is good permanently in the county where issued, and for one year in any other county.

A State certificate, which is issued to teachers who pass an examination, in a prescribed course, before the Board of Examiners of the State Normal

Schools. This certificate is permanently good in any part of the State.

(4,) *State Normal Schools.*—The State is divided into twelve Normal School districts. To nine of these the State has appropriated \$15,000 each towards the erection of buildings for Normal School purposes. The balance of the money required for their erection either has been or must be raised by local contributions. The buildings when erected do not belong to the State, but to the stockholders or contributors, who, however, can not dispose of them or use them for any other purpose, without the consent of the State authorities. The State has appropriated considerable money to the several schools for the purchase of apparatus. No school can be recognized as a State Normal School until it has been found by the State authorities to conform to the requirements of law, and, when recognized, its charges, course of study, and disciplinary regulations must be approved by the State Superintendent. The State furnishes diplomas for all graduates of Normal Schools, and the State Superintendent is chairman of the board that conducts the examination of the graduating classes. The State pays each student, who is attending a Normal School for the purpose of becoming a teacher, fifty cents a week towards his expenses, and gives him a gratuity of fifty dollars at graduation. All appropriations to State Normal Schools are paid by the State Superintendent. A diploma of the first degree, given at a State Normal School, exempts the holder from examination in any part of the State for a term of two years after graduation; but at the expiration of that time he must either submit to an examination, or present to the Board of Examiners of the Normal School where he graduated, an application for a diploma of the second degree, indorsed by the board or boards of directors for whom he has taught, and by the proper superintendent. This, if granted, makes him a teacher for life.

(5,) *State School Department.*—This department consists of the State Superintendent, who is appointed by the Governor, with the consent of the Senate, and holds his office for three years, and appoints his subordinate officers, which consisted in 1871 of a deputy superintendent, two inspectors of Soldiers' Orphan Schools, four clerks, and a messenger. The work of the School Department, with respect to the several educational agencies of the State, is briefly as follows:

With respect to *Teachers*:—It prepares and furnishes certificates for all the eighteen thousand teachers, and grants directly certificates to such of them as have reached the higher grades of the profession.

With respect to *School Directors and Comptrollers*:—It gives advice and instruction concerning their duties to the thirteen thousand school directors and comptrollers, furnishes them blanks, receives and tabulates their reports, reviews their accounts, judges whether they have kept their schools open according to law, and if so, pays them the State appropriation for their respective districts.

With respect to *County Superintendents*:—It calls conventions for the election of County Superintendents in the several counties, receives the returns and judges of their legality, commissions the persons elected, removes the disqualified, pays their salaries, provides blanks for recording and tabulating their work, and receives and publishes their reports.

With respect to *City and Borough Superintendents*:—It holds about the same relation to the City and Borough Superintendents as it does to County Superintendents, except in the matter of the direct payment of salaries.

With respect to *Teachers' Institutes*:—It furnishes the Teachers' Institutes—one being held in each county—with blanks for reports; receives, tabulates, and publishes their reports, and renders all the assistance possible in their management.

With respect to *State Normal Schools*:—It investigates the claims of Normal Schools to State recognition, executes all legal forms necessary to their becoming State institutions, examines and approves their courses of study, their governmental regulations and their charges to students, visits them, appoints the times of examining their graduating classes, and assists at the examinations; furnishes diplomas for their graduates, receives and publishes their reports, and pays them their State appropriations.

With respect to the *Soldiers' Orphan Schools*:—It has almost complete control of the forty different institutions in which soldiers' orphans (3,600) are maintained and instructed; the accommodations, the persons employed, the food, clothing, instruction, and discipline of the children being subject to the direction of the State Superintendent.

With respect to *Colleges and Academies*:—It receives, tabulates, and publishes all reports made by colleges and academies, as required by law.

Besides all this, the department makes an annual report to the legislature, containing full information concerning the condition of the system of public instruction in the State, and proposing plans for its improvement; to give advice appertaining to their school interests to every citizen who asks it, and to decide all questions relating to those interests, without expense to the parties presenting them.

To carry out, with the necessary system, the multiplied details of this immense work, the department prepares and issues, to the different school agencies and officers throughout the State, some thirty-five kinds of blank-books and forms, and is compelled to use twenty-five kinds of blank-books in which to keep its own records. Its correspondence reaches full fifteen thousand letters per annum.

With all the expenditures by the State and municipalities, and with all the activity and coöperation of school officers and the people, the statistics of adult illiteracy and non-attendance of children of school age are truly formidable and alarming. The national census of 1870; returns 131,728 persons, ten years and over, who can not read, and 222,536 who can not write, and of the latter, 126,803 are natives. The Superintendent in his report for 1872 remarks: 'It is to be feared that the number of illiterates, both of youth (31,512 between the ages of 10 and 21 years) and those of mature age (190,829), is much below the actual number. The number reported should be doubled, and more than doubled, who are growing up in ignorance.

RHODE ISLAND.

Rhode Island was first settled in 1631, and in 1790 had a population of 69,122, which in 1870 had increased to 217,353, with an area of 1,306 square miles, and a valuation of \$213,570,350 taxable property.

Under the settled policy of its founders during the colonial period of its history, the people tolerated no legislative interference with religious belief or practice, or with the education of children, which, like religion, was considered strictly a parental and individual duty. In some towns, donations in lands were made by individuals for the support of Free Schools—the endowed grammar schools of England. Soon after the adoption of the federal constitution, the subject of public schools was agitated in the pulpits; and in 1798 a committee of the Providence Association of Mechanics and Manufacturers appointed a committee 'to inquire into the most desirable method for the establishment of free schools.' On the recommendation of this committee, a memorial and petition drawn up by John Howland, of Providence, was presented to the General Assembly, and in 1800 'an Act to establish Free Schools' was passed, but which met with violent opposition, and was repealed in 1803, before any town but Providence had acted on its provisions. That town was excepted in the repeal. In 1825 the town of Newport was authorized to raise money by tax for the support of a free school, and to apply to it the avails of certain lands which had been bequeathed to the town for this purpose.

In 1828, after many years of agitation 'an act to establish public schools' was passed, by which 'all money paid into the general treasury by managers of lotteries or their agents, by auctioneers for duties accruing to the State, &c.,' was set apart for the exclusive purpose of keeping public schools. Each town was empowered to raise money by tax not exceeding in any one year twice the amount received from the State (which was by law not to exceed \$10,000 in any one year), provided special notice was inserted in the warrant for the town meeting that such a tax would be acted on, and such towns could appoint a school committee to manage the schools set up under this act. The town of Providence was authorized by special law to assess and collect any amount of tax for free schools, and in 1836 took the necessary steps to put the public schools on a basis of organization, and with an

outfit of school-houses, and material appliances, and with a superintendent (Nathan Bishop, the first city superintendent of public schools in the United States), and a corps of well qualified teachers for each grade of school from the primary to the high (for both sexes), which in five years placed its system of public instruction in advance of all other cities in the country.

Under this act (of 1828), supplemented by special acts from year to year to enable a few districts to build school-houses by tax, and a revision of the law in 1839, by which the annual State appropriation was increased to \$25,000, and the power of the towns to raise money by tax was extended to double the sum received from the State, and by six acts 'in addition to and amendments thereof' down to 1843, feeble and altogether unsatisfactory beginnings were made to establish public schools. In 1843, Wilkins Updike, a member of the House from South Kingston, introduced a bill for a public act (drawn up by Henry Barnard of Connecticut), 'for ascertaining the condition of the public schools in this State, and for the improvement and better management thereof.' The bill simply provided for the appointment of an agent 'to visit and examine the public schools, the qualifications of teachers, and their mode of instruction, and the actual condition and efficiency of the schools and popular education generally, and make report to the legislature, with such plan as his observations and experience may suggest.' The bill was explained by Mr. Updike, and in the evening before a convention of the two houses, by Mr. Barnard, who had then just returned from a tour of observation and pioneer work into every State in the Union, and on the following morning it became a law without a dissenting voice; and before Mr. Barnard could leave the town the governor had issued a commission appointing him to the office created by the act. The position was at once respectfully and firmly declined; but on the urgent solicitation of Mr. Updike, Hon. E. R. Potter, Dr. Wayland, Mr. Kingsbury, and public men of both political parties, (and the State was widely and bitterly divided by the 'Dorr War' and the two constitutions), Mr. Barnard reconsidered his decision, and on the 5th of December entered on his work of school inspection and educational conference and agitation in Rhode Island. A citizen of another State,

in a State proverbially jealous of any interference from abroad in her domestic institutions, and constitutionally opposed to all State interference in matters which belong to the towns, and going among men and into families boastful of their individual liberty to do as they pleased in matters of religion and education, and suspicious of all 'college learnt men,' the agent needed all the coöperation solicited by Governor Fenner in announcing his appointment to the people of Rhode Island.

In pursuance of an act 'to provide for ascertaining the condition of the public schools of this State, and for the improvement and better management thereof,' I have secured the services of Henry Barnard, who has had several years experience in the discharge of similar duties in a neighboring State, and has observed the working of various systems of public instruction in this country and in Europe. Mr. Barnard will enter immediately on the duties of his office. His great object will be to collect and disseminate in every practicable way information respecting existing defects and desirable improvements in the organization and administration of our school system, and to awaken, enlighten, and elevate public sentiment, in relation to the whole subject of popular education. With this view, he will visit all parts of the State, and ascertain, by personal inspection, and inquiries of teachers, school committees, and others, the actual condition of the schools, with their various and deeply interesting statistical details. He will meet, in every town, if practicable, such persons as are disposed to assemble together, for the purpose of stating facts, views, and opinions, on the condition and improvement of the schools, and the more complete and thorough education of the people. He will invite oral and written communications from teachers, school committees, and all others interested in the subject, respecting their plans and suggestions for advancing the intellectual and moral improvement of the rising, and all future generations, in the State. The results of his labors and inquiries, will be communicated in a report to the General Assembly. In the prosecution of labors so delicate, difficult, and extensive, Mr. Barnard will need the sympathy and coöperation of every citizen of the State. With the most cordial approval of the object of the legislature, and entire confidence in the ability, experience, and zeal of the gentleman whom I have selected to carry it out, I commend both to the encouragement and aid of all who love the State, and would promote her true and durable good, however discordant their opinions may be on other subjects.

The plan of operations was to ascertain by personal inspection and official reports the actual condition of the schools, and arouse and enlist the people in the thorough and entire change not only of opinion, but of habits in regard to schools and education.

To effect this change, in the course of three

years, eleven hundred school meetings were held in the thirty-three different towns—one at least, in every large neighborhood. One hundred and fifty of these meetings were continued through the day and evening; one hundred through two evenings and a day; fifty through two days and three evenings; and twelve as teachers' meetings through the week.

In addition to these meetings and addresses, having reference mainly to legal organization and administration, upward of two hundred meetings of teachers and parents were held for lectures and discussion on the best methods of teaching the studies ordinarily pursued in common schools, and for public exhibitions and examinations of schools or of classes of pupils in certain branches or studies, such as arithmetic, reading, etc. Besides these formal meetings, experienced teachers were employed to visit particular towns and sections of the State which were known to be particularly indifferent or opposed to public schools, and converse freely with parents by the way-side and by the fireside on the condition and importance of these schools. By means of these agencies a public meeting was held within three miles of every home in Rhode Island, and it was believed that three or more members of every family in the State was directly reached and favorably impressed in regard to the educational movement inaugurated in 1843.

To confirm the work begun by the living voice, the printed page was freely resorted to. Besides hundreds of volumes of elaborate treatises, 100,000 pamphlets and tracts, containing at least sixteen pages of educational matter each, were distributed gratuitously throughout the State; and in one year not an almanac was sold in Rhode Island without at least sixteen pages of educational reading attached, including numerous wood cuts devoted to schools as they were, and as as they should be. Upward of 1,200 volumes on schools and school systems and the theory and practice of teaching were purchased by teachers, or added to public and private libraries; and at least thirty volumes of educational literature were placed within the reach of the school committees of each town, and made accessible to teachers.

With this preparation of the public mind, a bill for the modification of the school system was introduced into the Legislature, and its various provisions explained by the

agent to the members. After undergoing various changes in that body, the bill was printed with remarks explanatory of the general scope as well as of the minute details, and distributed broadcast over the State; and not until the subject had been repeatedly discussed before the legislature and the people, was any attempt made to press final action, so that when it did become a law in 1855, it was thoroughly understood and went at once into operation without friction or serious opposition, and no attempt was made to weaken its most efficient provisions. To facilitate its introduction, forms of proceeding from the first organization of the school district to laying and collecting taxes, specimen of school registers, district and town school returns, regulations as to classification, studies, books, examination of teachers and schools, were attached and distributed to every school officer.

To facilitate the construction of spacious, attractive and convenient school-houses, the importance of these structures and equipment, their seating, ventilation and heating, was fully explained to parents and school officers, plans were widely distributed, and every coöperation desired by builders or committees was given by the State Commissioner, so that within five years, a complete revolution passed over this department of the field, and no State in the Union was so well furnished with commodious and healthful structures for school purposes.

To keep teachers up to their work, institutes, conventions, associations (State, county and town) were resorted to, a monthly educational journal was published, and treatises on methods and discipline were brought within their reach for purchase or perusal. When the agent closed his work in 1849, in place of unregulated, antagonistic, insufficient in number, and poorly equipped private schools, a system of public instruction was in quiet operation in every town, reaching every neighborhood, taught by teachers of ascertained qualifications, supported by tax, and visited by intelligent and interested school officers.

One of the most effective agencies in this reformatory movement, in enlisting teachers, parents and school officers in a system of common efforts was the Rhode Island Institute of Instruction, established in 1844, and which in 1873 held its twenty-ninth anniversary in a series of meetings, in the larg-

est public hall in Providence, with a crowded attendance of teachers and school officers, from all sections of the State.

Evening schools, which proved an essential feature of the plan of supplementary instruction in 1845, was taken up systematically in 1867 by Mr. Samuel Austin, through whose activity the Rhode Island Educational Union was instituted, and whose untiring agent he has been since, as well as a worker in this field all his life. In twenty towns in 1872, sixty evening schools have been maintained, with an average of one hundred pupils. The legislature in 1871 made a special appropriation in aid of these efforts, and several towns, as well as many mill proprietors and corporations now regard these schools, with their reading-rooms, lectures, and other facilities of instruction, as essential to the moral and intellectual well-being of manufacturing communities.

The school authorities are: (1.) Board of Education, which is not merely advisory, but has the immediate charge of the State Normal School, and the expenditure of such sums as the Legislature may appropriate (\$3,000 in 1871) for evening schools; (2.) State Commissioner of Common Schools, with the usual duties; (3.) Town School Committee—elected for three years with the appointment of a superintendent for each town and city—membership to this committee is open to men and women; (4.) district officers, who employ teachers.

The support of common schools is derived from: (1.) The State treasury—\$90,000 in 1872, derived from income of State School Fund (\$250,000) and general tax; (2.) Town treasury—\$309,578 town tax, and \$24,490 registry tax; (3.) District treasuries—\$59,722 district taxation.

The number of towns and cities (36) are divided into 423 districts, in which were kept 682 summer schools, attended by 26,912 pupils, and 719 winter schools attended by 28,702 pupils—612 female and 93 male teachers in the summer, and 579 female and 177 male teachers in the winter. The average attendance in public and private schools (8,000) was 38,000 out of 42,000 between the age of five and fifteen years.

The national census of 1870 returns 15,416 persons, ten years and over, who can not read, and 21,821 who can not write. The State board recommend an act to enforce attendance upon some school, public or private, of all children of school age.

SOUTH CAROLINA.

South Carolina, when first settled in 1670, was organized 'as the County of Carteret in Carolina,' and was constituted a separate royal government in 1727. The first State constitution was framed in 1776, and the population in 1790, on an area of 34,800 square miles, was 249,073 (107,094 slaves), which had increased in 1870 to 705,606 (415,814 colored), with taxable property to the value of \$183,913,337.

The earliest efforts to establish schools in the State was at Charleston in 1710, and was confined to the English model of a *free* school, an endowed school, 'with a teacher to teach the Latin and Greek languages.' Similar 'free schools' were instituted in other parishes, 'for instruction in grammar and other sciences,' and provision was made in several instances 'for an usher to teach writing, arithmetic, accounts, surveying, navigation and practical mathematics.' The constitution of 1779, and the revision of 1785, 1798 and 1839 are silent in respect to schools and education. The policy of the State was to leave elementary education to parents, and of the poor in particular, to private and parochial efforts, and to associations, such as the Hibernian, the German, and other national societies. In 1811 the State instituted a fund, the income of which was to secure to every citizen the benefits of education, but in the act itself was the secret of its own failure, a provision that 'if the fund should prove inadequate for all applicants, preference should be given to the poor.' The fund originally provided was small, and was entirely absorbed by the preferred class. The rich were excluded, and the schools, so far as they were independent institutions, degenerated into pauper schools. No one who could help it, would accept an education which could only be granted as a charity, or a declaration of pauperism. The same experiment had been tried in Pennsylvania and in the city of New York, as well as in Virginia. The evil was not remedied by increasing the appropriation, the confession of pauperism was still required. In 1843, and again in 1846, and subsequently by correspondence in this and all the adjoining States, Mr. Barnard of Connecticut, at the request of Gov. Allston, Mr. McCarter and others, 'set forth the practical working of public schools, resting on the basis of all other public institutions, avowedly open to all classes and actually resorted to by the chil-

dren of the rich and poor, and having all the conditions of a good school in school-houses, classification as to studies, teachers of tested qualifications, and intelligent and constant inspection. With these conditions, the success of public schools in Nashville and New Orleans, demonstrated that these institutions could succeed in Charleston and all other large cities and villages at the South, as well as in New England; and without these conditions, they never had or would succeed any where, no matter by what name they were called—common, free, or elementary. The public school in this country and in this age of the world, must have those elements which make a good school, or parents who know what a good education is, and desire it for their children, will have nothing to do with it. If it is the best school of its grade, the majority of parents will send, while there will always be families in every community who will prefer, from conditions of health, or aptitudes, or other causes, to send their children to private schools.'

In 1854 the initiatory steps were taken—and on the 4th of July, 1856, under the lead of the Hon. C. C. Memminger and Jefferson Bennett, a common school was opened in Charleston, which revolutionized public sentiment in that city, and was fast doing it for the whole State, when the mad passions of men consummated another revolution, which for the time shut up schools of every kind and grade. But before 1861, two public schools existed in Charleston, one embracing the usual classes and grades below a high school, and the other a high school for girls, and a normal school for female teachers for the whole State, were in operation under teachers who had held similar positions in Hartford and Boston, which would compare favorably in all the requisites of good schools—structures and equipment, regularity of attendance, classification by attainments, range of studies, teachers—male and female, of high personal character, intelligent and constant inspection, and the atmosphere of public appreciation. A demonstration more complete of Mr. Barnard's doctrine could not be made, and every credit belongs especially to Mr. Memminger for his constant, judicious and personal labors in inaugurating and consummating the work.

In the constitution of 1868, provision is made for the appointment of a State Superintendent, as had been recommended by

Gov. Manning in 1853, and for the establishment of 'a liberal and uniform system of free public schools throughout the State, one of which shall be kept open at least six months in each year in each school district.' The general assembly must also 'provide for the compulsory attendance, at either public or private schools, of all children between the ages of six and sixteen years not physically disabled, for a term equivalent to twenty-five weeks;' a saving clause is added 'that no law to the effect shall be passed until a system of public schools has been thoroughly and completely organized, and facilities afforded to all the inhabitants of the State for a free education of their children.' When to this provision we add another clause, that 'the state normal school, the agricultural college, and all public schools, colleges and universities supported in whole or in part by the public funds, shall be free and open to all the children and youth of the State, without regard to race or color,' it is pretty certain that the law of compulsory attendance is not likely to be passed in this generation, and if passed will remain inoperative on the statute book.

In 1868 the educational department of the State was organized and a Superintendent appointed, but up to 1871, this officer could report only meagre statistical returns. In 1870, a general system was organized and appropriations and taxation made for its support—\$37,500 for the university at Columbia, \$10,000 for the blind and deaf mutes, \$15,000 for the State orphan asylum, \$150,000 for free common schools, besides \$50,000 from the capitation tax. These are large amounts, and under favorable conditions as to public opinion, and a concentration of population in villages, great immediate results might be anticipated. The law provides for the usual county and district officers, and it remains to be seen if the slow process of school habits can be fostered by their judicious action, and if time will soften the asperities engendered by civil strife and social revolution.

In 1840, the national census returned 20,615 white persons over 20 years of age who could not read and write; and in 1870, according to the same authority, there were 265,892 persons over 10 years of age who could not read, and 280,370 could not write, and out of a school population of 233,915 between the ages of 5 and 18, there was a school attendance of only 38,249.

TENNESSEE.

Tennessee was originally settled in 1765 from North Carolina, of which it remained an integral portion till 1796, when it was ceded to the United States and admitted into the Union with an area of 45,600 square miles, and a population in 1790 of 35,798, which had increased in 1870 to 1,268,520 (322,338 colored), and taxable property to the value of \$254,673,792.

The laws and constitution (1776) of North Carolina extended over Tennessee till 1796, and after that time the only legislation respecting schools was in 1785, to incorporate Davidson Academy at Nashville and Martin Academy in Washington county, and in 1794, Blount College at Knoxville, and Greenville College in Green county.

The constitution of 1796, as amended in 1835, enjoins on the general assembly 'to cherish literature and science,' 'knowledge, learning, and virtue being essential to the preservation of republican institutions,' and to preserve inviolate the funds realized out of land and other appropriations for the support of common schools.

Down to 1825, the educational legislation of the State was confined to incorporating colleges and academies; and by the act of 1817, 'all academies were considered as schools preparatory to the introduction of students into the colleges of this state.'

In 1823, the first provision for public schools was made by devoting certain lands 'to a perpetual and exclusive fund for the establishment and promotion of common schools in each and every county in the state.' In 1827, certain other sources of revenue were added, and the whole was designed to be protected by the constitutional provision of 1835, but proved ineffectual against the executive and legislative necessities in the early stages of the war of secession, at which time the fund had accumulated to the sum of \$1,500,000.

In 1867, a new system was inaugurated, but in the political revulsion which followed, its efficient features were stricken out, and the State is now trying to see how a vigorous administration can be established without authority in the law, or will in the hearts of the people, while the astounding fact in the census of 1870 confronts the statesmen of Tennessee that 290,549 persons over 10 years of age can not read, and 364,697 can not write.

In 1873, the legislature reconsecrated the permanent school fund (estimated to be

\$2,112,000) to its original purpose, and appropriated the income (at six per cent.), and the avails of a capitation tax of one dollar, and a property tax of one mill on the State valuation, to public schools. Provision is also made for a State superintendent, county superintendent, one for each county, and three directors for each district.

TEXAS.

Texas was settled in 1792, and admitted as a State in 1845, with an area of 237,321 square miles, and a population in 1850 of 212,592, which had increased in 1870 to 808,579 (253,475 colored) and taxable property to the value of \$149,734,929.

In the constitution of 1845 it is made the duty of the legislature to make suitable provision for the support and maintenance of public schools, and as early as possible to establish a system of free schools throughout the State. It creates a school fund out of all funds, lands, and other property before set apart for the support of schools, including the alternate sections of land reserved by the State for railroad purposes, and of any other lands which may be derived from the United States government, and also empowers the legislature to levy a tax for educational purposes from year to year throughout the State, and reserves all sums arising from taxes collected from 'Africans, or persons of African descent,' for the exclusive maintenance of a system of public schools for the children of such Africans among whom public schools may be encouraged. It further authorizes the appointment of a superintendent of public instruction. But with all this wise constitutional enactment no efficient law was put on the statute book down to 1862, when the war disorganized society still more, and the census of 1870 showed 189,423 persons over 10 years who could not read, and 221,703 who could not write. By the constitution of 1869, and the school law of April, 1871, school officers were created with all the machinery for administration, but the great work of awakening parental interest, and creating a public opinion has not yet been attempted.

The first report of the State Superintendent for 1871 is devoted mainly to an exposition of difficulties in organizing a compulsory system over a vast area, with a sparse population, and without the inheritance of good school habits. The only encouraging feature is the existence of a permanent School Fund to the value of \$2,267,971, yielding \$136,096 August 31, 1871.

VERMONT.

Vermont was settled in 1724 largely from the State of Connecticut, and was admitted as one of the United States in 1791, with an area of 10,212 square miles, and a population in 1790 of 85,416, which had increased in 1871 to 330,551, and a valuation for taxable purposes of \$102,548,528.

The constitution of 1793 declares that 'a competent number of schools should be maintained in each town for the instruction of youths, and that one or more grammar schools should be incorporated and supported in each county in this State.' Prior to this date, schools had been maintained in each neighborhood, and by a general law passed in 1782, provision was made for the division of towns into convenient school districts, and the appointment of trustees in each town for the general superintendence of the schools, to whom was committed the power of raising one-half of the money required to build school-houses and support the schools by a tax on the grand list, and the other half, either on the list or the pupils of the schools, as the districts might order.

In 1825, the State made provision for a State School Fund, to be reserved until the capital should yield an income sufficient to keep a free common school in each district for a period of two months, but after the lapse of twenty years the accumulations seemed so slow and the necessities of the State requiring a State House, the law was repealed, and the capital, amounting at that time to \$250,000, was borrowed and converted into a granite structure; and the schools were kept open quite as long each year in the old ways, which according to the census of 1840 had reduced the amount of illiterary relatively below that of every State but one in the Union. In 1837, the share of the United States surplus revenue deposited with Vermont was distributed among the several towns, and the annual interest (\$40,000) to be divided in the same manner as a three per cent. assessment on the grand list for the support of schools in the same.

In 1845, a State Superintendent (Gov. Eaton) was appointed, and teachers institutes were held for the first time under his auspices in 1846. Since 1856, State supervision has been exercised by a Board of Education, acting through a secretary; and town supervision has been administered by a single officer. In 1870, the town superintendents in each county were required to

meet the secretary at such place and time (in March or April) each year as he may designate, to agree on a uniform standard of examination for all candidates for positions as teachers, make preliminary arrangements for the annual session of the institute for the county, and confer generally on the interests of education. Each town superintendent must hold two public examinations of candidates, and the State Superintendent must do the same at the county institutes.

In 1866, State Normal Schools were instituted, of which there are now three, at Randolph, Johnson, and Castleton, to each of which \$1,000 is appropriated.

The report of the secretary (John M. French) for 1872, is a document of 566 pages—full and instructive as to the condition of the schools, and the difficulties of getting the old district system on to the higher plane of a true system of graded schools. Towns are now (since 1870) authorized to abolish the district system, and place all the public schools under the management of six directors, one-third elected each year for a term of three years. This board may provide for the instruction of all the scholars of the town, in all the branches, higher as well as elementary, of a thorough education, in a series of schools, located for the convenience of families, and adapted to the different stages of advancement of groups of pupils, under teachers best qualified for each stage. Towns are also authorized to establish central schools for the advanced pupils of all the districts.

The following are among the statistical items for 1871-2: Towns and cities, 250; organized school districts, 2,160; fractional districts, 464; families, 67,162; families without children of school age, 46,018; children between five and twenty, 84,946; children attending common schools, 70,904; children attending academies, etc., 4,913; common schools, 2,503; male teachers, 671; female teachers, 3,544; teachers without experience, 861; teachers teaching in same district, 939; teachers, State Normal graduates, 377; teachers who board round, 1,313; school-houses, 3,399, and estimated value of same, \$1,265,387; wages and board of teachers, \$397,165; amount distributed by State, \$116,678; amount raised by town tax, \$69,380; amount by district tax, \$346,051; total, \$526,000. Census of 1870 returned 15,185 persons over 10 years of age could not read, and 17,706 could not write.

VIRGINIA.

Virginia was first settled in 1607, and adopted its first constitution in 1776, having in 1790 a population of 748,308 (293,427 slaves). Its original area of 61,352 square miles was reduced by the separation and organization of a portion of its territory into a new State called West Virginia to 38,350 square miles, with a population in 1870 of 1,225,163 (512,841 colored), and taxable property to the value of \$365,439,917. The constitution of 1776 contained no reference to education, but in a bill for the more general diffusion of knowledge prepared by Wythe and Jefferson in 1779, there is the following preamble :

Whereas it appeareth that however certain forms of government are better calculated than others to protect individuals in the free exercise of their natural rights, and are at the same time themselves better guarded against degeneracy, yet experience hath shown, that even under the best forms those intrusted with power have in time, and by slow operations, perverted it into tyranny ; and it is believed the most effectual means of preventing this would be to illuminate, as far as practicable, the minds of the people at large, and more especially thereby of the experience of other ages and countries, they may be enabled to know ambition under all its shapes, and prompt to exert their natural powers to defeat its purposes ; and whereas it is generally true that the people will be happiest whose laws are best, and are best administered, and that laws will be wisely formed and honestly administered in proportion as those who form and administer them are wise and honest ; whence it becomes expedient for promoting the public happiness, that those persons whom nature hath endowed with genius and virtue should be rendered, by liberal education, worthy to receive, and able to guard the sacred deposit of the rights and liberties of their fellow-citizens, and that they should be called to the charge without regard to wealth, birth, or other accidental condition or circumstance. But the indigence of the greater number, disabling them from so educating at their own expense those of their children whom nature hath fitly formed and disposed to become useful instruments of the public, it is better that such should be sought for and educated at the common expense of all, than that the happiness of all should be confided to the weak or wicked.

The admirable code of which the above is the preamble, was not adopted, and the first general school law was passed in 1796, with the following preamble :

Whereas it appeareth that the great advantages which civilized and polished nations enjoy, beyond the savage and barbarous nations of the world, are principally derived from the invention and use of letters, by means whereof the knowledge and experience of past ages are recorded and transmitted, so that man, availing himself in succession of the accumulated wisdom and discoveries of his predecessors, is enabled more successfully to pursue and

improve not only those arts which contribute to the support, convenience, and ornament of life, but those also which tend to illumine and ennoble his understanding and his nature.

And whereas, upon a review of the history of mankind, it seemeth that however favorable republican government, founded on the principles of equal liberty, justice, and order, may be to human happiness, no real stability or lasting permanency thereof can be rationally hoped for if the minds of the citizens be not rendered liberal and humane, and be not fully impressed with the importance of those principles from whence these blessings proceed ; with a view therefore to lay the first foundations of a system of education which may tend to produce those desirable purposes.

In 1810 the Literary Fund was instituted, and in 1816 the directors were instructed to report to the General Assembly a system of public education to comprehend a university, and such additional colleges, academies, and schools as shall diffuse the benefits of education throughout the commonwealth. The report embodied a scheme similar in its main features to that of 1779, which passed the House but was lost in the Senate. In 1818 an act was passed which appropriated \$45,000 of the revenue to the primary education of the poor, and \$15,000 a year to endow and support a university, to be styled '*The University of Virginia.*'

On the basis of this law, and a special act of 1819, Mr. Jefferson was successful in establishing an institution of higher learning, which educated, down to 1870, 8,000 students for Virginia, and exerted a powerful influence on the organization, studies and discipline of American colleges generally.

The system of primary education on the basis of the Literary Fund in 1811, and the act of 1818, did not accomplish even its narrow and ill-aimed object, the primary instruction of the poor. Governor Campbell, in 1839 proclaimed its failure, and that the utter ignorance of the white adults in that year was greater than in 1817, as evidenced by the register of marriage licenses ; and this statement was confirmed by the national census of 1840, which returned 58,787 persons over twenty years of age, out of the free white population, who could not read and write. Well might Governor McDowell say to the Legislature in 1843 : ' This plan of common education, which reaches only 28,000 out of the 51,000 poor children, and gives them only sixty days tuition, is a costly and delusive nullity, which ought to be abolished, and another and better one established in its place.' Various plans of

modification and substitution was suggested and discussed, but they were set aside in the frenzy of political excitement; and the national census of 1870 returns the illiteracy of the poor whites, with the frightful addition of the entire colored population, over ten years of age, at 390,913, who could not read, and 445,893 who could not write—and of the latter number, 444,623 were natives.

The constitution of 1867, ordains the outline of a system, which if it can be accepted cordially by the people, and administered firmly, but kindly, by officers who have their confidence, will in one generation do more for popular education than has been realized since Rev. Mr. Copeland, in 1621, first moved for the establishment of a 'Free School' in the Colony of Virginia, twenty-six years before 'Brother Purmont was entreated to become schoolmaster for the teaching and nurturing of children' in Boston.

Under the constitution of 1867, and the school law of 1870, a new system is now being administered by W. H. Ruffner, whose second annual report, dated Nov. 1, 1872, is an admirable document, in two parts. Part I. is devoted to a statistical and expository record of the work; Part II. is an exposition of the general principles and methods of the system and institutions established by the earlier and later legislation of Virginia. Both documents should have a wide circulation and find thoughtful readers, and henceforth many 'doers of the word.' The results of 1872, compared with those of 1871, and especially with any year of the former system are very encouraging; 3,695 public schools, with 166,337 pupils, under 3,853 teachers, examined and visited by 91 city and county superintendents, and maintained at an expense of \$993,318, is a hopeful exhibition of two years work under such difficulties as exist in this as in the other Southern States. To this number of public schools should be added 856 private schools (648 primary, 187 academies, and 21 colleges), with 20,497 pupils.

In the statistical summary of the Superintendent, and Auditor's Report, appear the following items: Capital of Literary Fund, \$1,596,069; pay of public school teachers and treasurers, \$643,066; county superintendents, \$45,295; central office, \$6,490; district expenses, \$289,467; University of Virginia, \$15,000; Virginia Military Institute, \$15,000; Deaf, Mute, and Blind School, \$40,000. Aid (\$28,900) from the Peabody Fund was given to three Normal Schools, &c.

WEST VIRGINIA.

West Virginia was detached from the territory of 'Old Virginia,' the people refusing to be put out of the United States by the war of secession, and was admitted as a State in December, 1862, with an area of 23,000 square miles and a population in 1860 of 393,224, which had increased to 442,014 in 1870, with taxable property to the amount of \$140,538,273.

The Constitution, as amended in 1863, creates a school fund out of the State's proportion of the 'literary fund' of Virginia and other sources, for the support of free schools throughout the State and for no other purpose whatever.' The Legislature is directed to 'provide as soon as practicable for the establishment of a thorough and efficient system of free schools,' for the election of a State Superintendent, for township taxation for free schools, for the proper care of the blind, deaf mutes, and insane, and the organization of such institutions of learning as the best interests of general education in the State may demand.

The system of free schools established in 1865, provide for: (1.) A general superintendent of free schools; (2.) county superintendents, elected by the people, for two years; (3.) township commissioners, three for each township, one elected each year for a term of three years; (4.) district trustees, appointed by the township board, from the residents of the district for which the school is provided; (5.) State Board of the School Fund, for the management of any fund set apart for the support of free schools.

In 1871, there were 2,357 public schools, with 87,330 pupils enrolled under 2,303 teachers in 2,113 school-houses, estimated to have cost \$2,257,744. The total expenditure for the year, for all objects, exceeded \$565,000.

Dr. Sears applied \$18,000 in aid of normal instruction in the State University, State Normal School at Fairmount, and the teachers' department in Marshall College, as well as to the establishment of the graded schools, and to the Teachers' Institutes.

Institutes were held at twenty different points with manifest advantage to teachers, and to the school interest, of the localities where held.

The support of schools falls mainly on a capitation tax of one dollar on each male inhabitant, over twenty-one years, and a tax of ten cents on every one hundred dollars of taxable property.

WISCONSIN.

Wisconsin was detached from the Territory of Michigan and organized an independent Territory in 1836, and admitted a State in 1848, with a population in 1850, on an area of 53,954 square miles, of 305,391, which had increased in 1870 to 1,054,670, with \$333,447,568 taxable property.

By the constitution of 1848, the supervision of public instruction is invested in a State Superintendent, to be chosen by the qualified electors of the State; the proceeds of all lands donated by the United States to the State for educational purposes are secured inviolably (1,) for the maintenance of common schools in each school district, and the purchase of suitable libraries and apparatus; (2,) for the maintenance of academies and normal schools, and (3,) for a state university; each town and city is required to raise by a tax, annually, for the support of free common schools therein, a sum not less than one-half the amount received by each town or city for school purposes, from the income of the school fund.

The first school law dates from 1849, by which all the territory in the organized towns is divided into school districts, the affairs of which are managed by three district officers, subject to the general supervision of the town school superintendent.

In 1857, twenty-five per cent. of the income of all swamp and overflowed lands granted to the State were constituted a normal school fund, the avails of which was first applied to colleges and academies which supported normal classes, but in 1865, the entire sales constitute a special fund for the support of State Normal Schools, of which five are now located. The capital of the Normal Fund is now about \$1,000,000; and the Common School Fund, \$2,500,000.

According to the last official report (of Samuel Fallowes) for 1872, there were 5,103 districts (excluding cities), with 423,717 persons of the school age (4 to 20), and the whole number of all ages attending public schools, 270,292; private schools, 18,020; academies and colleges, 2,831; benevolent institutions, 1,200; or an aggregate attendance for 1872, of 292,343.

The number of school-houses returned was 4,920, with accommodations for 312,612, valued at \$3,295,268. The productive capital of the school fund is \$2,482,771, and the aggregate expenditure for schools, \$2,174,154.

From this brief but comprehensive survey of the historical development of public instruction, and especially of common schools in the different States, it appears that:

1. The universal education of the people is now regarded among the primary objects of legislation, and a system of common or public schools is now ordained in the constitution or fundamental law, and organized and administered by legally constituted authorities in every State and Territory.

2. In every State there is a department of public instruction, under either a board or a single officer, charged with the supervision of this great interest, and in communication with the subordinate officers in the remotest and smallest corporation into which the territory may be divided.

3. For the accommodation and support of public schools, permanent funds, amounting in the aggregate to over \$100,000,000 are set apart; and all property, real and personal, is subject to state and local taxation, and was assessed in 1871 to the amount of over \$75,000,000 for public school purposes.

4. To provide local accommodations and material facilities for public schools, within the last twenty-five years, upwards of \$100,000,000 have been invested in school-houses and their equipment.

5. To realize an adequate return from this immense expenditure, more than 100 state and city normal and training schools have been established, and a system of examination and instruction instituted, more or less efficient, to exclude incompetent teachers; and to improve the qualifications of persons actually engaged in the work of instruction, more than 500 institutes are now held annually, in which over 50,000 teachers spend from three to five days in professional studies and exercises.

6. Notwithstanding this legislation and these expenditures, the non-school attendance and the adult illiteracy of the country is alarming, the national census of 1870 returning 4,528,084 persons, ten years of age and over, who can not read, and 5,658,144 who can not write; and of the last number 4,880,371 are native born.

7. The national census of 1870 returns 125,056 public schools of different grades, with 183,198 (109,024 females) teachers; 6,228,060 pupils (about equally divided as to sex); and a total expenditure of \$64,030,673, of which sum \$58,855,507 came from taxation.

TABLE.—Population, Taxable Property, Schools, Illiteracy, &c.

NATIONAL CENSUS OF 1870.										STATE STATISTICS OF 1872.			
States.	Area in Square Miles.	Population in 1870.	Taxable Property in 1870.	Schools of all kinds.			Number of Persons over 10 years of age, who		Persons between 5 and 18.	No. of Public Schools.	Permanent School Fund.	School houses, ground, and equipments.	Cost of Public Schools in 1872.
				Number.	Teachers.	Pupils.	Cost.	Can not read.	Can not write.				
Alabama.....	50,722	996,992	\$156,770,387	2,969	3,364	75,866	\$976,351	349,771	383,012	2,500	\$2,000,000	\$500,000	\$760,000
Arkansas.....	52,198	484,471	94,168,847	1,978	2,297	81,526	681,962	111,799	133,339	1,900	500,000	400,000	600,000
California.....	188,981	560,247	269,644,068	1,548	2,444	85,507	2,946,308	24,877	31,716	1,400	3,000,000	2,000,000	2,000,000
Connecticut.....	4,750	537,454	322,553,483	1,917	2,926	98,621	1,856,279	19,680	29,616	1,600	2,800,000	3,000,000	1,503,617
Delaware.....	2,120	125,015	64,787,223	375	510	19,577	212,712	19,350	23,100	330	300,000	200,000	200,000
Florida.....	59,268	187,748	32,480,843	377	482	14,670	154,569	66,238	71,803	400	300,000	200,000	80,000
Georgia.....	58,000	1,184,109	227,219,519	1,880	2,432	66,150	1,253,299	418,553	468,593	300	300,000	200,000	700,000
Illinois.....	55,410	2,539,891	482,899,575	11,835	24,056	767,775	9,970,009	86,368	133,584	11,156	6,382,248	18,373,880	7,000,000
Indiana.....	33,809	1,680,637	663,455,044	9,073	11,652	464,477	2,499,511	86,634	127,124	8,759	7,282,639	8,000,000	4,000,000
Iowa.....	55,045	1,194,792	302,515,418	7,496	9,319	217,654	3,570,093	24,115	45,671	7,716	3,174,578	6,704,551	3,265,000
Kansas.....	81,318	364,399	92,125,861	1,689	1,955	59,882	787,226	16,369	24,550	3,400	1,000,000	2,845,226	1,700,950
Kentucky.....	37,680	1,321,011	407,544,294	5,119	6,346	245,139	2,538,429	249,567	332,176	5,068	2,500,000	500,000	1,000,000
Louisiana.....	41,346	726,915	254,371,830	592	1,902	60,171	1,199,684	257,184	276,158	600	1,340,000	500,000	800,000
Maine.....	35,000	626,915	204,253,780	4,723	6,986	162,636	1,106,203	13,486	19,052	4,000	317,902	2,644,264	1,112,373
Maryland.....	11,124	780,894	423,834,918	1,779	3,287	107,384	1,998,215	114,100	135,499	1,500	1,000,000	2,000,000	1,500,000
Massachusetts.....	7,800	1,457,351	1,417,127,376	5,726	7,561	269,337	4,817,939	74,935	97,742	5,076	2,182,419	17,559,718	3,594,686
Michigan.....	56,451	1,184,059	272,242,917	5,595	9,559	266,627	2,550,018	34,613	53,127	5,500	2,700,000	6,224,797	4,000,660
Minnesota.....	83,531	439,706	84,135,332	2,479	2,886	107,266	1,011,769	12,747	24,413	2,700	2,831,000	1,700,000	4,000,000
Mississippi.....	47,156	827,922	177,288,892	1,564	1,728	43,451	780,339	291,718	313,310	3,450	1,000,000	200,000	500,000
Missouri.....	65,350	1,721,295	566,129,969	6,750	9,028	370,337	4,340,805	146,771	223,411	7,547	3,271,581	4,000,000	2,000,000
Nebraska.....	75,995	122,993	56,584,656	796	840	17,614	270,560	2,365	4,861	1,050	1,000,000	500,000	363,000
Nevada.....	104,125	42,491	25,740,973	53	84	2,373	110,493	727	872	53	500,000	200,000	160,000
New Hampshire.....	9,280	318,300	149,065,200	2,542	3,355	64,677	574,898	7,618	9,926	2,452	300,000	1,870,000	468,000
New Jersey.....	8,320	906,096	624,868,971	1,833	3,829	129,800	2,982,250	37,057	54,687	2,597	1,556,800	500,000	2,003,000
New York.....	47,000	4,382,759	1,964,001,185	13,020	28,918	862,022	15,936,783	163,501	239,271	12,500	7,000,000	23,468,266	9,000,000
North Carolina.....	50,704	1,071,361	130,378,622	2,161	2,692	64,958	635,892	339,789	397,690	1,398	1,632,000	200,000	800,000
Ohio.....	39,964	2,665,260	1,167,731,097	11,952	23,589	790,795	10,244,648	92,720	173,172	14,201	4,000,000	17,168,196	5,293,221
Oregon.....	95,274	90,923	31,798,510	637	826	32,593	248,022	2,609	4,427	600	1,000,000	100,000	150,000
Pennsylvania.....	46,000	3,521,951	1,243,367,852	14,872	19,522	811,863	9,628,119	131,728	222,356	16,000	.....	18,689,624	8,345,072
Rhode Island.....	1,306	217,353	213,570,353	561	951	32,596	565,012	15,416	21,921	720	250,000	1,000,000	465,263
South Carolina.....	34,600	705,606	183,913,337	750	1,103	38,249	577,953	265,892	290,379	700	.....	200,000	500,000
Tennessee.....	45,600	1,258,520	257,673,792	2,794	3,587	125,831	1,650,692	290,549	364,697	2,000	2,400,000	500,000	800,000
Texas.....	274,356	818,579	149,734,792	548	706	32,076	414,880	189,423	221,703	500	2,267,971	100,000	300,000
Vermont.....	10,212	330,551	102,548,528	3,084	5,160	23,913	707,292	15,185	17,706	3,000	.....	1,265,387	526,000
Virginia.....	38,348	1,225,163	365,439,917	2,024	2,697	60,019	1,155,585	390,913	445,893	3,695	1,595,069	387,672	993,318
West Virginia.....	23,000	442,014	140,538,273	2,445	2,838	104,949	698,061	48,802	81,490	2,303	250,000	2,527,744	600,000
Wisconsin.....	53,924	1,054,670	333,447,568	4,943	7,955	344,014	2,600,310	35,031	55,441	5,300	2,482,771	3,295,268	2,174,771
Total.....	1,984,467	38,115,332	13,646,948,450	141,629	220,022	7,178,737	95,153,370	4,438,206	5,552,488	144,971	70,417,038	150,194,573	72,938,271

II. SECONDARY INSTRUCTION.

THE first public schools of the American colonies were the free endowed grammar schools and subscription grammar schools; schools for secondary education. Public primary or elementary common schools were of later date, both in chronological order, and as being a logical result of their predecessors of higher grade.

The first school laws, those of Connecticut and Massachusetts, which were subsequent to the establishment by individuals or towns of the classes of schools they referred to, recognized all three grades of educational institutions, both what are at present termed common or elementary, and also secondary or superior; that is to say, common or neighborhood schools, grammar schools, and colleges.

The class of secondary schools, since the very earliest period of their establishment, has been far less cherished and supported, either by public opinion or by legal provisions, than either of the other two classes. Almost universally, the academy, the endowed school, the grammar school, has been wholly left to the support of those wealthier or more learned classes who have been tacitly assumed to have the only use for them; and where any state assistance has been extended to them, it has usually been in the exceptional form of individual acts of incorporation or individual grants of money or land.

It may be observed that such a co-equal public recognition, if extended to the class of secondary schools, would at once produce a definite and important result, in throwing probably half of what may be termed the present secondary course of study back within the course of the elementary grade of schools, and also in bringing back a large number of what are termed colleges into their appropriate grade of secondary institutions.

The noticeable and important fact is moreover thus brought out, that public opinion in the United States has never, up to the present time, demanded or recognized any universal privilege of education beyond that in the merest rudiments of it.

This neglect has of course caused the existing almost entire deficiency of recorded statistics of schools of this class. Such sta-

tistics are not accessible at all, except in the single state of New York, and even there, only from such secondary institutions as are obliged to furnish them as a condition of their receipt of a portion of the literature fund. This remark is not applicable to the grade of schools known as public high schools, for boys or girls, or both, in several of our larger cities; but these schools, few in number and of modern origin, are not so much the outgrowth of popular feeling, as the creations of a few intelligent friends of public education, in advance of any general demand for this class of institutions. Although not recognized generally as part of our systems of public instruction, schools of the former class have increased rapidly, and now exist in almost every village in the land, and their aggregate number in 1850, according to the census of that year, will be seen in the table on page 451.

The progress of this class of schools, in respect to studies, books, and equipment generally, and methods of instruction and discipline, can be readily measured by any one who will look into the best academy or public high school in his neighborhood, and then read the following communications—the first by the Hon. Josiah Quincy, respecting one of the earliest institutions of the class known as academies; and the other two by eminent public men, respecting the public schools, and particularly the Latin school of Boston, as it was prior to or about the beginning of the present century, and at that time pronounced “the best on the American continent.”

“MR. BARNARD: *Dear Sir*—You ask briefly the position of Phillips Academy as to studies, text-books, methods, and discipline. That academy was founded in the year 1778, in the midst of the war of the Revolution, by the united contributions of three brothers—Samuel, John, and William Phillips—all of them men of property according to the scale of that day, and all of a liberal spirit toward every object, religious, moral, or educational. But the real author and instigator of that foundation was the only son of the first of the above-named, who was known during the early period of his life by the name of *Samuel Phillips, Junior*. He was, during his whole life, one of the most distinguished, exemplary, and popular men in Massachusetts: active, spirited, influential, and ready, and a leader in every good work;

and he had the control of the hearts of his father and two uncles, and was undoubtedly the influential spirit giving vitality to the plan of that institution. There was only one academy in the state at that time—Dummer Academy at Newbury—which, although it had sent forth many good scholars, was then going to decay; and the beautiful and commanding site in the south parish of Andover which that institution now occupies, was unquestionably one of the causes of the idea of the institution as well as of its locality. Eliphalet Pearson had been educated at Dummer Academy, was distinguished for his scholarship and zeal in the cause of classical learning; Samuel Phillips, jr., had formed an intimacy with him at college, though in different classes, and entertained a high opinion both of his literary attainments and spirit of discipline. Phillips Academy was projected with reference to his becoming its first master; and his aid was joined with that of his friend Phillips in forming the constitution of the academy.

“The time of its foundation was unquestionably most inauspicious to its success, but young Phillips was of a spirit that quailed before no obstacles. It was designed to be a model institution of the kind, and no pains were omitted to secure its success; and notwithstanding the uncertainties of the political aspect of the time and the perpetually increasing depreciation of paper money, it was sustained in great usefulness and prosperity. I was sent to that academy within a month after its opening, in May, 1778, being the seventh admission on its catalogue. I had just then entered upon my seventh year, and was thrust at once into my Latin at a period of life when noun, pronoun, and participle were terms of mysterious meaning which all the explanations of my grammars and my masters for a long time vainly attempted to make me comprehend. But the laws of the school were imperious. They had no regard for my age, and I was for years submitted to the studies and discipline of the seminary, which, though I could repeat the former, through want of comprehension of their meaning, I could not possibly understand. I was sent to the academy two years at least before I ought to have been. But William Phillips was my grandfather; it was deemed desirable that the founders of the academy should show confidence in its advantages; I was, therefore, sent at once, upon its first opening, and I

have always regarded the severe discipline to which I was subjected, in consequence of the inadequacy of my years to my studies, as a humble contribution toward the success of the academy.

“The course of studies and text-books I do not believe I can from memory exactly recapitulate; I cannot, however, be far out of the way in stating that ‘Cheever’s Accidence’ was our first book; the second, ‘Corderius;’ the third, ‘Nepos;’ then, if I mistake not, came ‘Virgil.’ There may have been some intermediate author which has escaped my memory, but besides Virgil I have no recollection of any higher author.

“Our grammar was ‘Ward’s,’ in which all the rules and explanations are in Latin, and we were drilled sedulously in writing this language far enough to get into the university. Our studies in Greek were very slight and superficial. Gloucester’s Greek Grammar was our guide in that language, and a thorough ability to construe the four Gospels was all required of us to enter the college.

“These are the best answers I can give to your inquiries on the subject of ‘studies and text-books,’ but I am not confident that my memory serves me with exactness. Our preparation was limited enough, but sufficient for the poverty and distracted state of the period.

“Of ‘methods and discipline,’ for which you inquire, I can only say that the former was strict and exact, and the latter severe. Pearson was a convert to thorough discipline; monitors kept an account of all of a student’s failures, idleness, inattention, whispering, and like deviations from order, and at the end of the week were bestowed substantial rewards for such self-indulgences, distributed upon the head and hand with no lack of strength or fidelity.

“In that day arithmetic was begun at the university. The degree of preparation for college and the amount of the studies within it are not worthy of remembrance when compared with the means of acquirement now presented to the aspiring student.

“Your other inquiries I should be happy to make the subject of reply, but long cessation of familiarity with the objects to which they relate makes me dubious of my power to add any thing important to their history. My knowledge of the common schools of Boston was obtained only during the vacations of the academy, and had chief refer-

ence to improvement in my writing. Their advantages were few enough and humble enough; the education of females very slight, and limited to reading, writing, and the earlier branches of arithmetic.

"The interests of schools and of education were, thirty years ago, subjects of my thought and writing; but the lapse of time and the interposition of other objects and new duties deprive me of the power of aiding your researches on these subjects, which are, however, easily and far better satisfied by the active men of the day. Wishing you all success in these wise and noble pursuits,

"I am, very truly,

"Your friend and servant,

"JOSIAH QUINCY."

"BOSTON, Dec. 1st, 1860."

The following "Memorandum of an eminent clergyman, who was educated in the best schools of Boston just before the Revolution," we copy from a volume of the "Massachusetts Common School Journal," vol. xii., pp. 311, 312. The notes are by the editor of the Journal, Wm. B. Fowle:

"At the age of six and a half years, I was sent to Master John Lovell's Latin school. The only requirement was reading well; but, though fully qualified, I was sent away to Master Griffith, a private teacher, to learn to read, write and spell. I learned the English Grammar in Dilworth's Spelling Book by heart. Griffith traced letters with a pencil, and the pupils inked them.

"Entered Lovell's school at seven years. Lovell was a tyrant, and his system one of terror. Trouncing* was common in the

school. Dr. Cooper was one of his early scholars, and he told Dr. Jackson, the minister of Brookline, that he had dreams of school till he died. The boys were so afraid they could not study. Sam. Bradford, afterward sheriff, pronounced the *P* in *Ptolemy*, and the younger Lovell rapped him over the head with a heavy ferule.*

"We studied Latin from 8 o'clock till 11, and from 1 till dark. After one or two years, I went to the town school, to Master Holbrook, at the corner of West street, to learn to write; and to Master Proctor, on Pemberton's Hill, in the south-east part of Scollay's Building. My second, third, and fourth year, I wrote there, and did nothing else. The English boys alone were taught to make pens. Griffith was gentle, but his being a private teacher accounts for it.

"The course of study was, grammar; Esop, with a translation; Clarke's Introduction to writing Latin; Eutropius, with a translation; Corderius; Ovid's Metamorphoses; Virgil's Georgics; Æneid; Cæsar; Cicero. In the sixth year I began Greek, and for the first time attempted English composition, by translating Cæsar's Commentaries. The master allowed us to read poetical translations, such as Trappe's and Dryden's Virgil. I was half way through Virgil when I began Greek with Ward's Greek Grammar.

"After Cheever's Latin Accidence, we took Ward's Lily's Latin Grammer. After the Greek Grammar, we read the Greek Testament, and were allowed to use Beza's Latin translation. Then came Homer's Iliad, five or six books, using Clarke's translation with notes, and this was all my Greek education at school. Then we took Horace, and composed Latin verses, using the Gradus ad Parnassum. Daniel Jones was the first Latin scholar in 1771 or 1772,

* "Trouncing was performed by stripping the boy, mounting him on another's back, and whipping him with birch rods, before the whole school. James Lovell, the grandson of John, once related to us the following anecdote, which shows the utility of corporal punishment! It seems that a boy had played truant, and Master John had publicly declared that the offender should be trounced. When such a sentence was pronounced, it was understood that the other boys might seize the criminal, and take him to school by force. The culprit was soon seized by one party, and hurried to the master, who inflicted the punishment without delay. On his way home, the culprit met another party, who cried out, 'Ah, John Brown,' or whatever his name was, 'you'll get it when you go to school!' 'No, I shan't,' said the victorious boy, who felt that he had got the start of them, 'No, I shan't, for I've got it,' and, as he said this, he slapped his hand upon the part that had paid the penalty, thus, as the poet says, 'suiting the action to the word.'"

* "We saw this done by another Boston teacher, about thirty years ago, and when we remonstrated with him upon the danger of inflicting such a blow, upon such a spot, 'O, the caitiffs,' said he, 'it is good for them!' About the same time, another teacher, who used to strike his pupils upon the hand so that the marks and bruises were visible, was waited upon by a committee of mothers, who lived near the school, and had been annoyed by the outcries of the sufferers. The teacher promised not to strike the boys any more on the *hand*, and the women went away satisfied. But, instead of inflicting blows upon the hand, he inflicted them upon the soles of the feet, and made the punishment more severe."

and he was brother to Thomas Kilby Jones, who was no scholar, though a distinguished merchant afterward.

"I entered college at the age of fourteen years and three months, and was equal in Latin and Greek to the best in the senior class. Xenophon and Sallust were the only books used in college that I had not studied. I went to the private school from 11 to 12 A. M., and to the public from 3 to 5 P. M.

"The last two years of my school life, nobody taught English Grammar or Geography, but Col. Joseph Ward (son of Deacon Joseph Ward, of Newton, West Parish, blacksmith,) who was self-taught, and set up a school in Boston. He became aid to General Ward when the war commenced, and did not teach after the war.

"I never saw a map, except in Cæsar's Commentaries, and did not know what that meant. Our class studied Lowth's English Grammar at college. At Master Proctor's school, reading and writing were taught in the same room, to girls and boys, from 7 to 14 years of age, and the Bible was the only reading book. Dilworth's Spelling Book was used, and the New England Primer. The master set sums in our MSS. but did not go farther than the Rule of Three.

"Master Griffith was a thin man, and wore a wig, as did Masters Lovell and Proctor, but they wore a cap when not in full dress. James Lovell was so beaten by his grandfather John, that James the father rose and said, 'Sir, you have flogged that boy enough.' The boy went off determined to leave school, and go to Master Proctor's; but he met one of Master Proctor's boys, who asked whither he was going, and when informed, warned him not to go, for he would fare worse."

Hon. Edward Everett, in an address at the Annual School Festival in Faneuil Hall in 1852, gives the following account of the educational advantages he enjoyed in early life:—

"It was fifty-two years last April since I began, at the age of nine years, to attend the reading and writing schools in North Bennett street. The reading school was under Master Little, (for 'Young America' had not yet repudiated that title,) and the writing school was kept by Master Tileston. Master Little, in spite of his name, was a giant in stature—six feet four, at least—and

somewhat wedded to the past. He struggled earnestly against the change then taking place in the pronunciation of *u*, and insisted on saying *monooment* and *natur*. But I acquired, under his tuition, what was thought in those days a very tolerable knowledge of Lindley Murray's abridgment of English grammar, and at the end of the year could parse almost any sentence in the 'American Preceptor.' Master Tileston was a writing master of the old school. He set the copies himself, and taught that beautiful old Boston handwriting, which, if I do not mistake, has, in the march of innovation, (which is not always the same thing as improvement,) been changed very little for the better. Master Tileston was advanced in years, and had found a qualification for his calling as a writing master, in what might have seemed at first to threaten to be an obstruction. The fingers of his right hand had been contracted and stiffened in early life, by a burn, but were fixed in just the position to hold a pen and a penknife—and nothing else. As they were also considerably indurated, they served as a convenient instrument of discipline. A copy badly written, or a blotted page, was sometimes visited with an infliction which would have done no discredit to the beak of a bald eagle. His long, deep desk was a perfect curiosity-shop of confiscated balls, tops, penknives, marbles and Jews-harps—the accumulation of forty years. I desire, however, to speak of him with gratitude, for he put me on the track of an acquisition which has been extremely useful to me in after life—that of a plain, legible hand. I remained at these schools about sixteen months, and had the good fortune in 1804 to receive the Franklin medal in the English department. After an interval of about a year, during which I attended a private school kept by Mr. Ezekiel Webster, of New Hampshire, and on an occasion of his absence, by his ever memorable brother, Daniel Webster, at that time a student of law in Boston, I went to the Latin school, then slowly emerging from a state of extreme depression. It was kept in School street, where the Horticultural Hall now stands. The standard of scholastic attainment was certainly not higher than that of material comfort in those days. We read pretty much the same books—or of the same class—in Latin and Greek, as are read now, but in a very cursory and superficial manner. There was no attention paid to the philoso-

phy of the languages—to the deduction of words from their radical elements—to the niceties of construction—still less to prosody. I never made a hexameter or pentameter verse till, years afterward, I had a son at school in London, who occasionally required a little aid in that way. The subsidiary and illustrative branches were wholly unknown in the Latin school in 1805. Such a thing as a school library, a book of reference, a critical edition of a classic, a map, a blackboard, an engraving of an ancient building, or a copy of a work of ancient art, such as now adorn the walls of our schools, was as little known as the electric telegraph. If our children, who possess all these appliances and aids to learning, do not greatly excel their parents, they will be much to blame.”

Academy Life in Philadelphia about 1760.

Graydon, in “*Memoirs of a Life chiefly passed in Philadelphia, within the last sixty [1752–1811] years,*” printed in Harrisburgh by John Wyeth, 1811, after noting his first teacher in Bristol, where he was born, as a kind, good-humored Irishman, by the name of Pinkerton, and his first teacher in Philadelphia, an Englishman (David James Dove), much celebrated in his day both as teacher and maker of a minor kind of satirical poetry, chronicles his admission into the principal seminary in Pennsylvania, then as now bearing the name of a university.

“I was now about eight years of age, and my first introduction was to Mr. Kinnersley, the teacher of English and Professor of Oratory. He was an Anabaptist clergyman, a large, venerable looking man, of no great general erudition, though a considerable proficient in electricity; and who, whether truly or not, has been said to have had a share in certain discoveries in that science, of which Doctor Franklin received the whole credit. The task of the younger boys, at least, consisted in learning to read and to write their mother tongue grammatically; and one day in the week (I think Friday) was set apart for the recitation of select passages in poetry and prose. For this purpose, each scholar, in his turn, ascended the stage, and said his speech, as the phrase was. This speech was carefully taught him by his master, both with respect to its pronunciation, and the action deemed suitable to its several parts. Two of these specimens of infantile oratory, to the disturbance of my repose, I had been qualified to exhibit: family partiality, no

doubt, overrated their merit: and hence, my declaiming powers were in a state of such constant requisition, that my orations, like worn out ditties, became vapid and fatiguing to me; and consequently impaired my relish for that kind of acquirement. More profit attended my reading. After Æsop’s fables, and an abridgment of the Roman history, Telemachus was put into our hands; and if it be admitted that the human heart may be bettered by instruction, mine, I may aver, was benefited by this work of the virtuous Fenelon. While the mild wisdom of Mentor called forth my veneration, the noble ardor of the youthful hero excited my sympathy and emulation. I took part, like a second friend, in the vicissitudes of his fortune, I participated in his toils, I warmed with his exploits, I wept where he wept, and exulted where he triumphed.

“A few days after I had been put under the care of Mr. Kinnersley, I was told by my classmates that it was necessary for me to fight a battle with some one in order to establish my claim to the honor of being an academy boy; that this could not be dispensed with, and that they would select for me a suitable antagonist, *one of my match*, whom after school I must fight, or be looked upon as a coward. I must confess that I did not at all relish the proposal. Though possessing a sufficient degree of spirit, or at least irascibility, to defend myself when assaulted, I had never been a boxer. Being of a light and slender make, I was not calculated for the business, nor had I ever been ambitious of being the cock of a school. Besides, by the laws of the institution I was now a subject of, fighting was a capital crime; a sort of felony deprived of clergy, whose punishment was not to be averted by the most scholar-like reading. For these reasons, both of which had sufficient weight with me, and the last, not the least, as I had never been a willful transgressor of rules, or callous to the consequences of an infraction of them, I absolutely declined the proposal; although I had too much of that feeling about me, which some might call false honor, to represent the case to the master, which would at once have extricated me from my difficulty, and brought down condign punishment on its imposers. Matters thus went on until school was out, when I found that the lists were appointed, and that a certain John Appowen, a lad who, though

not quite so tall, yet better set and older than myself, was pitted against me. With increased pertinacity I again refused the combat, and insisted on being permitted to go home unmolested. On quickening my pace for this purpose, my persecutors, with Appowen at their head, followed close at my heels. Upon this I moved faster and faster, until my retreat became a flight too unequivocal and inglorious for a man to relate of himself, had not Homer furnished some apology for the procedure, in making the heroic Hector thrice encircle the walls of Troy, before he could find courage to encounter the implacable Achilles. To cut the story short, my spirit could no longer brook an oppression so intolerable, and stung to the quick at the term coward which was lavished upon me, I made a halt and faced my pursuers. A combat immediately ensued between Appowen and myself, which for some time was maintained on each side with equal vigor and determination, when, unluckily, I received his fist directly in my gullet. The blow for a time depriving me of breath and the power of resistance, victory declared for my adversary, though not without the acknowledgment of the party that I had at last behaved well, and shown myself not unworthy of the name of an academy boy. Being thus established, I had no more battles imposed upon me, and none that I can recollect, of my own provoking; for I have a right to declare that my general deportment was correct and unoffending, though extremely obstinate and unyielding under a sense of injustice.

"In March, 1761, I entered the Latin school, and became the pupil of Mr. John Beveridge, a native of Scotland, who retained the smack of his vernacular tongue in its primitive purity. His acquaintance with the language he taught, was I believe, justly deemed to be very accurate and profound. But as to his other acquirements, after excepting the game of backgammon, in which he was said to excel, truth will not warrant me in saying a great deal. He was, however, diligent and laborious in his attention to his school; and had he possessed the faculty of making himself beloved by the scholars, and of exciting their emulation and exertion, nothing would have been wanting in him to an entire qualification for his office. But unfortunately, he had no dignity of character, and was no less destitute of the art of making himself

respected than beloved. Though not perhaps to be complained of as intolerably severe, he yet made a pretty free use of the ratan and the ferule, but to very little purpose. He was, in short, no disciplinarian, and consequently very unequal to the management of seventy or eighty boys, many of whom were superlatively pickle and unruly. He was assisted, indeed, by two ushers, who eased him in the burden of teaching, but who, in matters of discipline, seemed disinclined to interfere, and disposed to consider themselves rather as subjects than rulers. I have seen them slyly slip out of the way when the principal was entering upon the job of capitally punishing a boy, who from his size would be likely to make resistance. For this had become nearly a matter of course; and poor Beveridge, who was diminutive in his stature and neither young nor vigorous, after exhausting himself in the vain attempt to denude the delinquent, was generally glad to compound for a few strokes over his clothes, on any part that was accessible. He had, indeed, so frequently been foiled, that his birch at length was rarely brought forth, and might truly be said to have lost its terrors—it was *tanquam gladium in vagina repositum*. He indemnified himself, however, by a redoubled use of his ratan.

"So entire was the want of respect towards him, and so liable was he to be imposed upon, that one of the larger boys, for a wager, once pulled off his wig, which he effected by suddenly twitching it from his head under pretense of brushing from it a spider; and the unequivocal insult was only resented by the peevish exclamation of *hoot mon!*

"Various were the rogueries that were played upon him; but the most audacious of all was the following. At the hour of convening in the afternoon, that being found the most convenient, from the circumstance of Mr. Beveridge being usually a little beyond the time; the bell having rung, the ushers being at their posts, and the scholars arranged in their classes, three or four of the conspirators conceal themselves without, for the purpose of observing the motions of their victim. He arrives, enters the school, and is permitted to proceed until he is supposed to have nearly reached his chair at the upper end of the room, when instantly the door and every window-shutter is closed. Now, shrouded in utter darkness, the most

hideous yells that can be conceived are sent forth from at least three score of throats; and Ovids, and Virgils, and Horaces, together with the more heavy metal of dictionaries, whether of Cole, of Young, or of Ainsworth, are hurled without remorse at the head of the astonished preceptor, who, on his side, groping and crawling under cover of the forms, makes the best of his way to the door. When attained, and light restored, a death-like silence ensues. Every boy is at his lesson; no one has had a hand or a voice in the recent atrocity; what then is to be done, and who shall be chastised.

*Sævit atrox Volscens, nec teli conspicit usquam
Auctorem, nec quo se ardens immittere possit.*

Fierce Volscens foams with rage, and gazing round
Descries not him who aim'd the fatal wound;
Nor knows to fix revenge.

"This most intolerable outrage, from its succeeding beyond expectation, and being entirely to the taste of the school, had a run of several days; and was only then put a stop to by the interference of the *faculty*, who decreed the most exemplary punishment on those who should be found offending in the premises, and by taking measures to prevent a further repetition of the enormity.

"The ushers, during the term of my pupilage, a period of four years or more, were often changed; and some of them, it must be admitted, were insignificant enough; but others, were men of sense and respectability, to whom, on a comparison with the principal, the management of the school might have been committed with much advantage. Among these was Mr. Patrick Allison, afterwards officiating as a Presbyterian clergyman in Baltimore; Mr. James Wilson, late one of the associate justices of the Supreme Court of the United States; and Mr. John Andrews, now Doctor Andrews of the University of Pennsylvania. It is true they were much younger men than Mr. Beveridge, and probably unequal adepts in the language that was taught; but even on the supposition of this comparative deficiency on their part, it would have been amply compensated by their judicious discipline and instruction.

"With respect to my progress and that of the class to which I belonged, it was reputable and perhaps laudable for the first two years. From a pretty close application, we were well grounded in grammar, and had passed through the elementary books, much to the approbation of our teachers; but at

length, with a single exception, we became possessed of the demons of liberty and idleness. We were, to a great degree, impatient of the restraints of a school; and if we yet retained any latent sparks of the emulation of improvement, we were unfortunately never favored with the collision that could draw them forth. We could feelingly have exclaimed with Louis the Fourteenth, *mais à quoi sert de lire!* but where's the use of all this pouring over books! One boy thought he had Latin enough, as he was not designed for a learned profession; his father thought so too, and was about taking him from school. Another was of opinion that he might be much better employed in a counting-house, and was also about ridding himself of his scholastic shackles. As this was a consummation devoutly wished by us all, we cheerfully renounced the learned professions for the sake of the supposed liberty that would be the consequence. We were all, therefore, to be merchants, as to be mechanics was too humiliating; and accordingly, when the question was proposed, which of us would enter upon the study of Greek, the grammar of which tongue was about to be put into our hands, there were but two or three who declared for it. As to myself, it was my mother's desire, from her knowing it to have been my father's intention to give me the best education the country afforded, that I should go on, and acquire every language and science that was taught in the institution; but as my evil star would have it, I was thoroughly tired of books and confinement, and her advice and even entreaties were overruled by my extreme repugnance to a longer continuance in the college, which, to my lasting regret, I bid adieu to when a little turned of fourteen, at the very season when the minds of the studious begin to profit by instruction. We were at this time reading Horace and Cicero, having passed through Ovid, Virgil, Cæsar and Sallust. From my own experience on this occasion, I am inclined to think it of much consequence, that a boy designed to complete his college studies, should be classed with those of a similar destination."

A picture of academy life prior to 1800—its material outfit of building and apparatus, its teachers, studies, and students, in Georgia and Virginia, has already been given, and does not differ essentially from "the beggarly elements" above described.

Public High Schools—Endowed Academies.

In the original organization of public instruction in New England, provision was made for a school of a higher order than the common district or neighborhood school, where the mother tongue, penmanship and arithmetic were taught to all, so that "so much barbarism as a single child unable to read the Holy Word of God, and the good laws of the colony could not exist." This school in Massachusetts and New Hampshire was a town grammar school for all towns of one hundred families. In Connecticut the same original requisition gave place in 1672 to a school of the same grade for the head town of each county, and to diminish the expense of tuition, and ultimately to make the instruction gratuitous, was aided by grants of public lands, and to some extent endowed by individuals. By degrees in all parts of New England, where there was a difficulty in establishing the local grammar school, either from paucity of inhabitants, or want of popular appreciation of the necessity or the advantages of instruction of this grade, either the clergyman in his own house fitted young men for college, or a college graduate at his own risk opened a temporary school for pupils, whose parents desired for them more of arithmetic and grammar than could be obtained in the district school. In such places, if there were few men, or even one man of public spirit and energy, sooner or later an academic institution would spring up, towards the support of which donations or bequests would be made, and for its better management, corporate powers and grants of public lands would be asked and obtained from the legislature. In Massachusetts alone these charters and land grants were made originally, as a settled policy—only for districts where the grammar schools could not supply the wants of a higher education, and for not more than one institution in a large extent of territory like that of a county. By degrees this policy was forgotten and disregarded, even in Massachusetts, and charters were freely granted, and the Academies came to rival and supersede even the Town Grammar schools—until public attention was arrested to the fact, first by James G. Carter in 1824. From that time strenuous efforts have been made by the friends of public schools to restore the earlier and better policy, of Public High Schools for boys and girls in every city and town where the popula-

tion was sufficient to furnish a quota of scholars, who could at once reside with their parents and get the advantages of the higher education.* To provide for children and youth in smaller towns and in more sparsely populated counties, where they are obliged to go away from home for a higher education, Academies and Seminaries have been largely endowed, so as to reduce the cost of tuition and the expense of residence. These schools are becoming fewer in number, but the few are better endowed, and better equipped for the work of classical and scientific teaching.

Academies out of New England.

Out of New England generally, where the township plan of settlement did not prevail, and where even neighborhood schools were not provided for or made obligatory by law, the educational wants of the few families, who cared for higher, as well as elementary instruction for their older and younger children, could be most readily and economically obtained for them by associated efforts, which soon resulted in special charters for convenience of management; and hence all over the country the policy of Academies, not only for large districts, like one or more counties, but for all large towns and cities prevailed. In such States, the demand for educational facilities for the more wealthy and educated families being thus partially, and in some cases even liberally supplied, it has been difficult to overcome the force of habit, and inaugurate a school policy large and broad enough to provide at once for elementary and higher grades of schools at the public expense for the entire community. Without the higher element, the public school inevitably sinks down into a class institution—common, not only because it is rudimentary and cheap, but because it is poor and only for the poor.

By degrees the Graded System of Public Schools, presented by Mr. Mann and Mr. Barnard, and particularly by the latter in addresses delivered before the Legislatures and in the principal cities of seventeen States between the years 1842–1848, and in numerous publications on this subject, of which over 1,000,000 copies have been printed and distributed—was established in all the principal cities of the country, where are

* According to the Report of Massachusetts Board of Education for 1870. High Schools were maintained in 162 out of 335 towns in the State, embracing 82 per cent of the population, in nearly all the towns having over 2,000 inhabitants.

now found the best specimens of our American system of Public Instruction.

Outside of the Public High School, the incorporated and endowed Academies and Seminaries, until quite recently, were avowedly denominational in the religious profession of their teachers and the general influence of the institution. Recently, several schools of the secondary class have been established on the basis of corporate powers, but the instruction has been made free or cheap, and all sectarian preference and influence has been disavowed and guarded against. Of this class are the Putnam Free School at Newburyport, Mass., the Free Academy at Norwich, and the Morgan School at Clinton, in Connecticut.

Female Seminaries and Colleges.

Although variously designated, all the institutions for female education of the highest grade, yet established in this country, belong properly to the department of secondary instruction, these are nearly all the creation not only of the present century, but of the last twenty-five years. But before noticing a few of the more prominent institutions which are fast rising into grade of superior schools, we cite from a communication of Rev. William Woodbridge, an account of the education of girls as it was more than one hundred years ago.

Girls had no separate classes, though generally sitting on separate benches. A merchant from Boston, resident in my native town, who was desirous to give his eldest daughter the best education, sent her to that city, one quarter, to be taught needlework and dancing, and to improve her manners in good and genteel company. To *complete* this education, *another* quarter, the year following, was spent at Boston. A third quarter was then allowed her at the school of a lady in Hartford. Another female among my schoolmates was allowed to attend the same school for the period of three months, to attain the same accomplishments of needlework, good reading, marking, and polished manners. These are the only instances of female education, beyond that of the common schools before described, which I knew, in a town of considerable extent, on Connecticut river, until 1776.

You inquire how so many of the females of New England, during the latter part of the last century, acquired that firmness, and energy, and excellence of character for which they have been so justly distinguished, while their advantages of school education were so limited.

The only answer to this question must be founded on the fact, that it is not the amount of knowledge, but the nature of that knowledge, and still more, the manner in which it is used, and the surrounding influences and habits, which form the character. Natural logic—the self-taught art of thinking—was the guard and guide of the female mind. The

first of Watt's five methods of mental improvement, "The attentive notice of every instructive object and occurrence," was not then in circulation, but was exemplified in practice. Newspapers were taken and read in perhaps half a dozen families, in the most populous villages and towns. Books, though scarce, were found in some families, and freely lent; and in place of a flood of books, many of which are trifling or pernicious, there were a few, of the best character. They were thoroughly read, and talked of, and digested. In town and village libraries, there were some useful histories, natural and political. Milton, Watts' Lyric Poems, Young's Night Thoughts, Hervey's Meditations, the Tattler, and Addison's Spectator, were not scarce, though not generally diffused. Pamela, Clarissa Harlow, and an abridgement of Grandison, were in a few hands, and eagerly read; and the Adventures of Robinson Crusoe, was the chief work of this kind for the young.

But the daily, attentive study of the Holy Scriptures, the great source of all wisdom and discretion, was deemed indispensable in those days, when every child had a Bible, and was accustomed to read a portion of the lesson at morning prayers. This study, with the use of Watts' Psalms (a book, which with all the defects it may have, contains a rich treasure of poetry and thought, as well as piety,) at home, at church, and in singing schools, I regard as having furnished, more than all other books and instructions, the means of mental improvement, for forty years of the last century.

When, at length, academies were opened for female improvement in the higher branches, a general excitement appeared in parents, and an emulation in daughters to attend them. Many attended such a school one or two quarters, others a year, some few longer. From these short periods of attendance for instruction in elementary branches, arose higher improvements. The love of reading and habits of application became fashionable; and fashion we know is the mistress of the world.

When the instruction of females in any of the departments of science was first proposed, it excited ridicule. The man who devoted his time and heart to the work was regarded as an enthusiast. The cry was—"What need is there of learning how far off the sun is, when it is near enough to warm us?"—"What, will the teacher learn his pupils to make Almanacs?"—"When girls become scholars, who is to make the puddings and the pies?" But these narrow prejudices have almost passed away. Many have since become equally enthusiasts on this subject, and the results of an improved system of female education have not disappointed their hopes or mine. By a true discipline of mind, and application to the solid branches of knowledge, our well educated females have become more agreeable companions, more useful members of society, and more skillful and faithful teachers, without disqualifying themselves for domestic avocations.

The first school of eminence exclusively for girls was the Moravian Seminary at Bethlehem, Pennsylvania. This was established as early as 1749, but was not opened as a boarding-school until 1785. It enjoyed about that date a national reputation. About

the same period the Academy of the Visitation, at Georgetown, the first Catholic Seminary for girls in the United States, was established, and at this date there are upwards of fifty under the care of different religious orders in the different dioceses.

It has been claimed that President Dwight, in his school at Greenfield, opened in 1783, was the first in the country to admit pupils of both sexes to an entire equality of intellectual training of the highest order.

When that famous teacher, Caleb Bingham, removed to Boston, in 1784, he did so with the design of opening there a school for girls, who were, singularly enough, at that time excluded from the public schools. Mr. Bingham's enterprise was successful, and was also the means of revolutionizing the unfair school system of the city, and of introducing a plan which, though imperfect, provided some public instruction for girls. After many delays and defeats, the Girls' High School, in 1872, was left to occupy alone the largest, most costly, and best equipped school structure in the United States, under the direction of a principal (Samuel Eliot, LL. D.) who was recently a college president.

In 1792, Miss Pierce opened a school for girls at Litchfield, Connecticut, which continued in operation for forty years, and educated large numbers of young ladies from all parts of the country. In the same year, at Philadelphia, was incorporated the first Female Academy in this country.

From about 1797 to 1800, Rev. William Woodbridge, father of the well-known author and educator, W. C. Woodbridge, taught a young ladies' school, at first at Norwich, and afterward at Middletown, Ct. He had previously (in 1779) taught a class of young ladies in New Haven, Ct., and a Female Academy in 1789 at Medford, Mass.

In 1816, Mrs. Emma Willard commenced her endeavors to secure for women the opportunity of acquiring a grade of education corresponding to that which colleges furnish to the other sex. The eminent success and excellence of her celebrated school at Troy are well known; and an important consequence of her labors was, that female seminaries were admitted to receive aid from the literature fund of the State of New York, on the same terms with the male academies.

From 1818 to 1830, Rev. Joseph Emerson conducted a young ladies' school of high reputation and efficiency, successively at Byfield and Saugus, Mass., and Wethersfield, Conn.

In 1823, George B. Emerson, LL. D., opened a young ladies' school at Boston, probably with a more complete outfit than any which had preceded it. Soon after, the well-known school of Mr. Kingsbury, an institution of similar grade and excellence, was opened at Providence. Miss Z. P. Grant and Miss Mary Lyon, both pupils of Rev. J. Emerson, were associated in the conduct of an excellent school for young ladies at Ipswich, Mass., in 1821. The energetic and persevering labors of Miss Lyon, with the purpose of establishing a permanent Protestant school of high grade for young ladies, resulted in the establishment of the celebrated seminary at South Hadley, which was opened in 1837. In 1839 the first Normal School for female teachers was opened at Framingham.

In 1822, Miss Catherine E. Beecher opened a school for young ladies at Hartford, Conn., which she conducted with eminent success for ten years. She afterward taught for a short period at Cincinnati, but her labors for female education have subsequently consisted in various publications, and in the management of an extended scheme for a system of Christian female education, including a national board, high schools, and normal schools; which has resulted in the establishment of several valuable institutions.

In 1825, at Wilbraham, Mass., was opened the first of the Methodist Conference seminaries—institutions whose plan has substantially followed that of the Wilbraham Seminary, which was drawn up by Rev. Wilbur Fiske, its first principal, and admitted young women as well as young men to their advantages. Ten years later, Oberlin College, at first with no higher range of studies, but since largely increased, extended all its courses to females as well as males, and fifty years later Cornell University, with public and private endowments out of which \$2,000,000 will be realized, has opened all its optional classes and schools, and all its degrees to aspirants of both sexes on the same conditions. In the number of largely endowed female institutions is the Packer Collegiate Institute at Brooklyn, N. Y., which had previously existed as the Brooklyn Institute, and received its present name in consequence of the munificent gift of \$85,000 by Mrs. Harriet L. Packer of that city; and Vassar Female College at Poughkeepsie, N. Y., for which the vast sum of \$800,000 has been given by Matthew Vassar, of that city.

III. COLLEGES, OR SUPERIOR INSTRUCTION.

INTRODUCTION.

At the close of the Colonial period of our educational history, we have already noticed the fact of the existence of seven Colleges,—Harvard, William and Mary, Yale, Nassau Hall, Rutgers, Brown, and Kings—all of them founded on a common type, all of them including, as an essential part of their curriculum, the study of Latin and Greek, with special reference to the wants of the church, while they were all avowedly preparatory to the “learned professions of theology, law, and medicine” generally. By degrees the term University came to be applied to this class of institutions—which, without changing in any essential particular the aims or studies of the American College, has perverted and belittled one of the most significant and noblest terms in the annals of human culture. We have yet not a single institution which, by the independent test of its admission, and the optional range of its instruction, based on a preliminary institutional drill in the elementary principles of received science, is entitled to the designation of University in its best European sense. Our Universities, so called, with few honorable exceptions, can not, without great latitude of construction, be admitted into the classification of American Colleges; and great injury has been done to higher learning in this country by the indiscriminate incorporation of associations, all avowedly sectarian in their constitution and aims, with power to grant academic degrees, under the name of a college or university.

Condition of American Colleges about 1800.

The following account of all the Colleges in operation in 1796 is taken from Winterbotham's *Historical, Geographical, Commercial and Philosophical View of the United States*, published in four volumes in London in 1796. The information was obtained by personal inquiries, and from such sources as Morse, Webster, Wither Spoon, &c. We have added a few paragraphs and notes respecting institutions omitted by the above author, to make the account complete to the beginning of this century.

MASSACHUSETTS.—Harvard University takes its date from the year 1638. Two years before, the General Court gave four hundred pounds for the support of a public

school at Newtown, which has since been called Cambridge. This year (1638) the Rev. Mr. John Harvard, a worthy minister residing in Charlestown, died, and left a donation of seven hundred and seventy-nine pounds, for the use of the fore-mentioned public school. In honor to the memory of so liberal a benefactor, the General Court, the same year, ordered that the school should take the name of Harvard College.

In 1642, the college was put upon a more respectable footing, and the governor, deputy governor, and magistrates, and the ministers of the six next adjacent towns, with the president, were erected into a corporation for the ordering and managing its concerns. It received its first charter in 1650.

Cambridge, in which the university is situated, is a pleasant village, four miles westward from Boston; containing a number of elegant seats, which are neat and well-built. The university consists of four elegant brick edifices, handsomely inclosed. They stand on a beautiful green, which spreads to the north-west, and exhibit a pleasing view.

The names of the several buildings are, Harvard Hall, Massachusetts Hall, Hollis Hall, and Holden Chapel. Harvard Hall is divided into six apartments; one of which is appropriated for the library, one for the museum, two for the philosophical apparatus; one is used for a chapel, and the other for a dining hall. The library, in 1791, consisted of upwards of thirteen thousand volumes; and is continually increasing from the interest of permanent funds, as well as from casual benefactions. The philosophical apparatus belonging to this university, cost between one thousand four hundred, and one thousand five hundred pounds sterling, and is the most elegant and complete of any in America.

Agreeable to the present constitution of Massachusetts, his Excellency the Governor, Lieutenant-governor, the Council and Senate, the President of the University, and the ministers of the congregational churches in the towns of Boston, Charlestown, Cambridge, Watertown, Roxbury, and Dorchester, are, *ex officiis*, overseers of the university.

The corporation is a distinct body, consisting of seven members, in whom is vested the property of the university.

Harvard University has a President, Emeritus Professor of Divinity,—Hollisian Professor of Divinity,—Hancock Professor of Hebrew and other Oriental languages,—Hol-

lis Professor of Mathematics and Natural Philosophy—Hersey Professor of Anatomy and Surgery,—Hersey Professor of the theory and practice of Physic,—Erving Professor of Chemistry and Materia Medica,—four tutors, who teach the Greek and Latin languages, logic, metaphysics, and ethics, geography, and the elements of geometry, natural philosophy, astronomy, and history; and a preceptor of the French language.

This university, as to its library, philosophical apparatus and professorships, is at present the first literary institution on the American continent. Since its first establishment, upwards of three thousand three hundred students have received honorary degrees from its successive officers; about one-third of whom have been ordained to the work of the gospel ministry. It has generally from one hundred and thirty to one hundred and sixty students.

This university is liberally endowed, and is frequently receiving donations for the establishment of new professorships. Formerly there was an annual grant made by the legislature to the president and professors, of from four to five hundred pounds, which for several years past has been discontinued.

[Williams College grew out of the avails of land and other property left by will of Col. Ephraim Williams, dated July 22, 1755, "for the support of a Free School in a township west of Fort Massachusetts." The land was in part a grant of 200 acres made to him by the General Court of Massachusetts for military service in the French war from 1740 to 1748. In 1785 a body of trustees to maintain a free school in Williamstown was incorporated by the legislature, a building erected, and a school opened in the same in 1791, with two departments—a grammar-school or academy, with a college course, and an English free school. In 1793 this school, by act of the legislature, became Williams College, with a grant of \$4,000 from the State to purchase books and philosophical apparatus. The requirements for entering the college were, ability "to read, parse and construe, to the satisfaction of the president and tutor, Virgil's *Æneid*, Tully's Orations, and the Evangelists, in Greek; or if he prefers to become acquainted with French, he must be able to read, with a tolerable degree of accuracy and fluency, Hudson's French Scholars' Guide, Telemuchus, or some other approved French author.]

VIRGINIA.*—The college of William and Mary was founded in the time of King William and Queen Mary [1692], who granted to it twenty thousand acres of land, and a penny a pound duty on certain tobaccos exported from Virginia and Maryland, which had been levied by the statute of 25 Car. II. The Assembly also gave it, by temporary laws, a duty on liquors imported, and skins and furs exported. From these resources it received upwards of three thousand pounds. The buildings are of brick, sufficient for an indifferent accommodation of perhaps one hundred students. By its charter it was to be under the government of twenty visitors, who were to be its legislators, and to have a president and six professors, who were incorporated: it was allowed a representative in the General Assembly. Under this charter, a professorship of the Greek and Latin languages, a professor of mathematics, one of moral philosophy, and two of divinity, were established. To these were annexed, for a sixth professorship, a considerable donation by a Mr. Boyle of England, for the instruction of the Indians, and their conversion to Christianity: this was called the professorship of Brasserton, from an estate of that name in England, purchased with the moneys given. The admission of the learners of Latin and Greek filled the college with children; this rendering it disagreeable to the young gentlemen already prepared for entering on the sciences, they desisted from resorting to it, and thus the schools for mathematics and moral philosophy, which might have been of some service, became of very little use. The revenues, too, were exhausted in accommodating those who came only to acquire the rudiments of science. After the present revolution, the visitors having no power to change those circumstances in the constitution of the college which were fixed by the charter, and being therefore confined in the number of professorships, undertook to change

* In 1619 a gift of 500*l.* was made to the Virginia Company to aid in the education of Indian youths. Collections were taken up in the Churches of England, by which 10,500*l.* were realized, and the company appropriated 10,000 acres of land at Henrico, a little below the present site of Richmond. Rev. Mr. Copeland was made president, and George Thorpe, with 50 tenants, sent over in 1621 to improve the land. These were all slain by the Indians in the great massacre of 1622, and the project of the college was abandoned. In 1666 an attempt was made in the Assembly to establish a college "for the supply of the ministry and the promotion of piety." In 1692 a charter was obtained from the government in England through the agency of Rev. James Blair, who became its president, and the assistance of Lieut. Governor Nicholson, and was called after its royal founders, William and Mary.

the objects of the professorships. They excluded the two schools for divinity, and that for the Greek and Latin languages, and substituted others; so that at present they stand thus—a professorship for law and police; anatomy and medicine; natural philosophy and mathematics; moral philosophy, the law of nature and nations, the fine arts; modern languages; for the Brasserton.

Measures have been taken to increase the number of professorships, as well for the purpose of subdividing those already instituted, as of adding others for other branches of science. To the professorships usually established in the universities of Europe, it would seem proper to add one for the ancient languages and literature of the north, on account of their connection with our own languages, laws, customs, and history. The purposes of the Brasserton institution would be better answered by maintaining a perpetual mission among the Indian tribes; the object of which, besides instructing them in the principles of Christianity, as the founder requires, should be to collect their traditions, laws, customs, languages, and other circumstances which might lead to a discovery of their relation to one another, or descent from other nations. When these objects are accomplished with one tribe, the missionary might pass on to another.

The college edifice is a huge, misshapen pile; "which, but that it has a root, would be taken for a brick-kiln." In 1787, there were about thirty young gentlemen members of this college, a large proportion of which were law students.

The academy in Prince Edward county has been erected into a college by the name of Hampden Sydney college. It has been a flourishing seminary, but is now said to be on the decline.

CONNECTICUT.—Yale College was founded in 1700, and remained at Killingworth until 1707; then at Saybrook until 1716, when it was removed and fixed at New Haven. Among its principal benefactors was Governor Yale, in honor of whom, in 1718, it was named Yale College. Its first building was erected in 1717, being one hundred and seventy feet in length, and twenty-two in breadth, built of wood. This was taken down in 1782. The present college, which is of brick, was built in 1750, under the direction of the Rev. President Clap, and

is one hundred feet long and forty feet wide, three stories high, and contains thirty-two chambers, and sixty-four studies, convenient for the reception of one hundred students. The college chapel, which is also of brick, was built in 1761, being fifty feet by forty, with a steeple one hundred and twenty-five feet high. In this building is the public library, consisting of about two thousand five hundred volumes; and the philosophical apparatus, which, by a late handsome addition, is now as complete as most others in the United States, and contains the machines necessary for exhibiting experiments in the whole course of experimental philosophy and astronomy. The college museum, to which additions are constantly making, contains many natural curiosities.

This literary institution was incorporated by the General Assembly of Connecticut. The first charter of incorporation was granted to eleven ministers, under the denomination of trustees, in 1701. The powers of the trustees were enlarged by the additional charter of 1723. And by that of 1745, the trustees were incorporated by the name of "The president and fellows of Yale College, New Haven." By an act of the General Assembly "for enlarging the powers and increasing the funds of Yale College," passed in May, 1792, and accepted by the corporation, the governor, lieutenant-governor, and the six senior assistants in the council of the State for the time being, are ever hereafter, by virtue of their offices, to be trustees and fellows of the college, in addition to the former corporation. The corporation are empowered to hold estates, continue their succession, make academic laws, elect and constitute all officers of instruction and government usual in universities, and confer all learned degrees. The immediate executive government is in the hands of the president and tutors. The present officers and instructors of the college are, a president, who is also professor of ecclesiastical history, a professor of divinity, and three tutors. The number of students, on an average, is about 130, divided into four classes. It is worthy of remark, that as many as five-sixths of those who have received their education at this university, were natives of Connecticut.

The funds of this college received a very liberal addition by a grant of the General Assembly, in the act of 1792

before mentioned; which will enable the corporation to erect a new building for the accommodation of the students, to support several new professorships, and to make a handsome addition to the library.

The course of education in this university comprehends the whole circle of literature. The three learned languages are taught, together with so much of the sciences as can be communicated in four years.

In May and September, annually, the several classes are critically examined in all their classical studies. As incentives to improvement in composition and oratory, quarterly exercises are appointed by the president and tutors, to be exhibited by the respective classes in rotation. A public commencement is held annually on the second Wednesday in September, which calls together a more numerous and brilliant assembly, than are convened by any other anniversary in the State.

About two thousand two hundred have received the honors of this university, of whom nearly seven hundred and sixty have been ordained to the work of the gospel ministry.

[Wansey, in his *Journal of an Excursion to the United States of North America in 1794*, thus speaks of the college: I went over to the college, which stands in the market-place. It consist of two brick edifices, one hundred feet long and three stories high. It was founded in the year 1700; it was but in bad condition when I saw it; very dirty, particularly the library. The books were numerous, but very old and in bad condition; two large globes of Senex's, a large electrical apparatus, a good reflecting telescope, and a cabinet of curiosities, with which I was much entertained; viz., Indian helmets, curiously woven with feathers; warlike dresses and belts of wampum. Two large teeth of the mammoth, found on the banks of the Ohio, in the shape of human cheek teeth; I measured them with my handkerchief, and applied it to a foot rule, and found their dimensions to be twenty-two inches round horizontally, and twenty inches long when I measured longitudinally, over the tops and between the roots. The skins of two beautifully spotted snakes, eighteen feet long, from South America; an Indian calumet or pipe of peace; a young alligator, preserved in spirits; instruments of war and of fishing, from Nootka Sound. Cloth made at

Otaheite. A curious frog, with a long tail like a lizard. Several pieces of asbestos found in that neighborhood. But what most particularly struck me, was a snake with two distinct heads; I asked the librarian whether this was not considered as a monster, a *lusus naturæ*? He assured me not, and that in that neighborhood they had often been found alive. This one was preserved in spirits, in size, color, and shape, like our *flow worm*, about eight or nine inches long; the two heads were of the same size, and every way perfect, branching off equally from the trunk, in opposite directions, one inch and a quarter in length. I afterwards saw at Philadelphia, in Peale's museum, two others of this sort, only that one of them had three heads; neither of them in a straight direction with the body. I did not see Dr. Stiles, the president of the college, he was gone to New York that day. The students had all been dismissed to their respective homes, three months before, on account of the epidemic or putrid fever which then raged in the town.]

NEW JERSEY.—There are two colleges in New Jersey; one at Princetown, called Nassau Hall, the other at Brunswick, called Queen's College.

The college at Princetown was first founded by charter from John Hamilton, Esq., President of the Council, about the year 1738, and enlarged by Governor Belcher in 1747. The charter delegates a power of granting to "the students of said college, or to any others thought worthy of them, all such degrees as are granted in either of the universities, or any other college in Great Britain." It has twenty-three trustees. The governor of the State, and the president of the college are *ex officiis*, two of them. It has an annual income of about nine hundred pounds currency, of which two hundred pounds arise from funded public securities and lands, and the rest from the fees of the students.

The president of the college is also professor of eloquence, criticism and chronology. The vice-president is also professor of divinity and moral philosophy. There is also a professor of mathematics and natural philosophy, and two masters of languages. The four classes in college contain commonly from seventy to one hundred students. There is a grammar-school of about twenty scholars connected with the college, under the superintendence of the president, and

taught sometimes by a senior scholar, and sometimes by a graduate.

Before the war, this college was furnished with a philosophical apparatus, worth five hundred pounds, which (except the elegant orrery constructed by Mr. Rittenhouse) was almost entirely destroyed by the British army in the late war, as was also the library, which now consists of between two and three thousand volumes.

The college edifice is handsomely built with stone, and is one hundred and eighty feet in length, fifty-four in breadth, and four stories high, and is divided into forty-two convenient chambers for the accommodation of the students, besides a dining-hall, chapel, and room for the library. Its situation is elevated, and exceedingly pleasant and healthful. It is remarkable, that since the removal of the college to Princetown, in 1756, there have been but five or six deaths among the students. The view from the college balcony is extensive and charming.

The college has been under the care of a succession of presidents, eminent for piety and learning, and has furnished a number of civilians, divines and physicians, of the first rank in America.

The charter for Queen's College, at Brunswick, was granted [1770] just before the war, in consequence of an application from a party of the Dutch church. Its funds, raised wholly by free donations, amounted, soon after its establishment, to four thousand pounds, but they were considerably diminished by the war. The grammar school, which is connected with the college, consists of between thirty and forty students, under the care of the trustees. The college at present is not in a very flourishing state.

NEW YORK.—Until the year 1745, there was no college in the province of New York. The state of literature, at that time, I shall give in the words of the state historian: * "Our schools are in the lowest order; the instructors want instruction, and through a long and shameful neglect of all the arts and sciences, our common speech is extremely corrupt, and the evidences of a bad taste, both as to thought and language, are visible in all our proceedings, public and private." This may have been a just representation at the time when it was written; but much attention has since been paid to education.

Kings College, in the city of New York, was principally founded by the voluntary

contributions of the inhabitants of the province, assisted by the General Assembly, and the corporation of Trinity Church; in the year 1754, a royal charter (and grant of money) being then obtained, incorporating a number of gentlemen therein mentioned, by the name of "The Governors of the College of the Province of New York, in the city of New York, in America; and granting to them and their successors for ever, amongst various other rights and privileges, the power of conferring all such degrees as are usually conferred by either of the English universities.

By the charter it was provided that the president shall always be a member of the church of England, and that a form of prayer collected from the liturgy of that church, with a particular prayer for the college, shall be daily used, morning and evening, in the college chapel; at the same time, no test of their religious persuasion was required from any of the fellows, professors, or tutors; and the advantages of education were equally extended to students of all denominations.

The building, which is only one-third of the intended structure, consists of an elegant stone edifice, three complete stories high, with four stair cases, twelve apartments in each, a chapel, hall, library, museum, anatomical theatre, and school for experimental philosophy.

The college is situated on a dry, gravelly soil, about one hundred and fifty yards from the bank of Hudson's river, which it overlooks; commanding a most extensive and beautiful prospect (now solid warehouses).

Kings College is now called Columbia College. This college, by an act of the legislature passed in the spring of 1787, was put under the care of twenty-four gentlemen, who are a body corporate, by the name and style of "The Trustees of Columbia College in the city of New York." This body possess all the powers vested in the governors of Kings College before the revolution, or in the regents of the university since the revolution, so far as their power respected this institution. No regent can be a trustee of any particular college or academy in the State. The regents of the university have power to confer the higher degrees, and them only.

The college edifice has received no additions since the peace. The funds, exclusive of the liberal grant of the legislature, amount to between twelve and thirteen thou-

* Smith's History of New York, London, 1757.

sand pounds currency, the income of which is sufficient for present exigencies.

This college is now in a thriving state, and has about one hundred students in the four classes, besides medical students. The officers of instruction and immediate government are a president, professor of mathematics and natural philosophy, a professor of logic and geography, and a professor of languages. A complete medical school has been lately annexed to the college, and able professors appointed by the trustees in every branch of that important science, who regularly teach their respective branches with reputation. The number of medical students is about fifty, but they are increasing. The library and museum were destroyed during the war. The philosophical apparatus is new and complete.

[Union College, at Schenectady, received its charter from the Regents of the University in 1795, but owing to inadequate means and the short administrations of its first three presidents, John Blair Smith, Jonathan Edwards and Jonathan Marcy, the institution did not develope into a college until its administration was committed to Rev. Eliphalet Nott, at the time pastor of the Presbyterian church at Albany.]

RHODE ISLAND.—At Providence is Rhode Island College. The charter for founding this seminary of learning was granted by the General Assembly of the State, by the name of the "Trustees and Fellows of the College or University, in the English colony of Rhode Island and Providence Plantations,"* in 1764, in consequence of the petition of a large number of the most respectable characters in the State. By the charter, the corporation of the college consists of two separate branches, with distinct, separate, and respective powers. The number of trustees is thirty-six, of whom twenty-two are Baptists, five of the denomination of Friends, five Episcopalians, and four Congregationalists. The same proportion of the different denominations to continue *in perpetuum*. The number of fellows (inclusive of the president, who is a fellow *ex officio*) is twelve, of whom eight are Baptists, the others chosen indiscriminately from any denomination. The concurrence of both branches, by a majority of each, is necessary for the validity of an act, except ad-

judging and conferring degrees, which exclusively belongs to the fellowship as a learned faculty. The president must be a Baptist: professors and other officers of instruction are not limited to any particular denomination.

This institution was first founded at Warren, in the county of Bristol, and the first commencement held there in 1769.

In the year 1770, the college was removed to Providence, where a large, elegant building was erected for its accommodation, by the generous donations of individuals, mostly from the town of Providence. It is situated on a hill to the east of the town; and while its elevated situation renders it delightful, by commanding an extensive variegated prospect, it furnishes it with a pure, salubrious air. The edifice is of brick, four stories high, one hundred and fifty feet long, and forty-six wide, with a projection of ten feet each side. It has an entry lengthwise, with rooms on each side. There are forty-eight rooms for the accommodation of students, and eight larger ones for public uses. The roof is covered with slate.

From December, 1776, to June, 1782, the college edifice was used by the French and American troops for an hospital and barracks, so that the course of education was interrupted during that period. No degrees were conferred from 1776 to 1786. From 1786, the college again became regular, and is now very flourishing, containing upwards of sixty students.

This institution is under the instruction of a president, a professor of divinity, a professor of natural and experimental philosophy, a professor of mathematics and astronomy, a professor of natural history, and three tutors. The institution has a library of between two and three thousand volumes, containing a valuable philosophical apparatus. Nearly all the funds of the college are at interest in the treasury of the State, and amount to almost two thousand pounds.

PENNSYLVANIA.—The University of Pennsylvania, by that name, was chartered in 1779 by an act which annulled the charter of the Academy and Charitable School, obtained by Franklin in 1749, and enlarged into a college in 1755. By an act of 1789 the trustees and faculty of the old college were reinstated, and by an act of 1791 the two institutions were united in the Univer-

* This name to be altered when any generous benefactor arises, who by his liberal donation shall entitle himself to the honor of giving the college a name.

sity of Pennsylvania. Winterbotham, writing in 1795, says: In Philadelphia is the University of Pennsylvania, founded and endowed by the legislature during the war. Professorships are established in all the liberal arts and sciences, and a complete course of education may be pursued here from the first rudiments of literature to the highest branches of science.

The college and academy of Philadelphia was founded by charter between thirty and forty years ago, and endowed by subscription of liberal minded persons. Though this institution was interrupted in its progress for several years during the late war, yet being re-established since the peace, it has rapidly recovered its former state of prosperity, and to the bench of professors has lately been added one of common and federal law, which renders it in reality, though not in name, an university. An act to unite these two institutions has passed the legislature. By their union they will constitute one of the most respectable seminaries of learning in the United States.

Dickinson College, at Carlisle, an hundred and twenty miles westward of Philadelphia, was founded in 1783, and has a principal, three professors, a philosophical apparatus, a library consisting of nearly three thousand volumes, four thousand pounds in funded certificates, and ten thousand acres of land; the last, the donation of the State. In 1787, there were eighty students belonging to this college: this number is annually increasing. It was named after his excellency John Dickinson, author of the Pennsylvania Farmer's Letters, and formerly president of the Supreme Executive Council of this State.

In 1787, a college was founded at Lancaster, sixty-six miles from Philadelphia, and honored with the name of Franklin college, after his excellency, Dr. Franklin. This college is for the Germans, in which they may educate their youth in their own language, and in conformity to their own habits. The English language, however, is taught in it. Its endowments are nearly the same as those of Dickinson College. Its trustees consist of Lutherans, Presbyterians, and Calvinists, of each an equal number. The principal is a Lutheran, and the vice-principal is a Calvinist.

MARYLAND.—In 1782, a college was instituted at Chestertown, in Kent county, and was honored with the name of Washington

College, after President Washington. It is under the management of twenty-four visitors of governors, with power to supply vacancies and hold estates, whose yearly value shall not exceed six thousand pounds current money. By a law enacted in 1787, a permanent fund was granted to this institution of one thousand two hundred and fifty pounds a year, currency, out of the moneys arising from marriage licenses, fines, and forfeitures on the eastern shore.

St. Johns College was instituted in 1784, to have also twenty-four trustees, with power to keep up the succession by supplying vacancies, and to receive an annual income of nine thousand pounds. A permanent fund* is assigned this college, of one thousand seven hundred and fifty pounds a year, out of the moneys arising from marriage licenses, ordinary licenses, fines and forfeitures, on the western shore. This college is at Annapolis, where a building has been prepared for it. Very liberal subscriptions have been obtained towards founding and carrying on these seminaries. The two colleges constitute one university, by the name of "the University of Maryland," whereof the governor of the State for the time being is chancellor, and the principal of one of them vice-chancellor, either by seniority or by election, as may hereafter be provided for by rule or by law. The chancellor is empowered to call a meeting of the trustees, or a representation of seven of each, and two of the members of the faculty of each, the principal being one, which meeting is styled, "The Convocation of the University of Maryland," who are to frame the laws, preserve uniformity of manners and literature in the colleges, confer the higher degrees, determine appeals, &c.

The Roman Catholics have also erected a college at Georgetown, [included in the cession for the District of Columbia] on the Potomac river, for the promotion of general literature.

In 1785, the Methodists instituted a college at Abingdon, in Harford county, by the name of Cokesbury College, after Thomas Coke, and Francis Ashbury, *bishops* of the Methodist Episcopal Church. The college edifice is of brick, handsomely built on a healthy spot, enjoying a fine air, and a very extensive prospect.

The students, who are to consist of the

* Repealed by Legislature in 1804.

sons of traveling preachers, of annual subscribers, of the members of the Methodist society and orphans, are instructed in English, Latin, Greek, Logic, Rhetoric, History, Geography, Natural Philosophy and Astronomy; and when the finances of the college will admit, they are to be taught the Hebrew, French, and German languages.

The college was erected, and is supported wholly by subscription and voluntary donations.

The students have regular hours for rising, for prayers, for their meals, for study, and for recreation: they are all to be in bed precisely at nine o'clock. Their recreations, (for they are to be "indulged in nothing which the world calls *play*,") are gardening, walking, riding, and bathing, without doors; and within doors, the carpenter's, joiner's, cabinet-maker's, or turner's business. Suitable provision is made for these several occupations, which are to be considered, not as matters of drudgery and constraint, but as pleasing and healthful recreations both for the body and mind. Another of their rules, which though new and singular, is favorable to the health and vigor of the body and mind, is, that the students shall not sleep on feather beds but on mattresses, and each one by himself. Particular attention is paid to the morals and religion of the students.

NEW HAMPSHIRE.—The establishment of Dartmouth College [founded by Eleazer Wheelock, D.D., in 1769, at Hanover, in Grafton county, with special view to the education of young Indians] in the western border of the State, has proved a great benefit to the new settlements, and to the neighboring State of Vermont. During the late war, like all other seminaries of literature, it lay under discouragement; but since the peace it is in a more flourishing situation.

Its landed interest amounts to about eighty thousand acres, of which twelve hundred lie contiguous, and are capable of the best improvement. Twelve thousand acres are situate in Vermont. A tract of eight miles square beyond the northern line of Stuart town, was granted by the Assembly of New Hampshire in 1789, and in the act by which this grant was made, "the president and council of the State for the time being are incorporated with the trustees of the college, so far as to act with them in regard to the expenditures and application of this grant, and of all others which have been

or may be hereafter made by New Hampshire."

The revenue of the college arising from the lands, amounts to one hundred and forty pounds per annum. By contracts already made it will amount in four years to four hundred and fifty; and in twelve years to six hundred and fifty pounds. The income arising from tuition money is about six hundred pounds per annum more.

The first building erected for the accommodation of the students was a few years since burned. A lottery was granted by the State for raising the sum of seven hundred pounds, which has been applied to the erection of a new building, much more convenient than the former; it was constructed of wood, and stands in an elevated situation, about half a mile eastward of Connecticut river in the township of Hanover, commanding an extensive and pleasant prospect to the west. It is one hundred and fifty feet long, fifty feet wide, and thirty-six feet high, and contains thirty-six chambers for students. The number of students who were graduated in the first nineteen years, amounts to two hundred and fifty-two, among whom were two Indians. In the year 1790, the number of undergraduates was about one hundred and fifty.

The students are divided into four classes. The freshmen study the learned languages, the rules of speaking and writing, and the elements of mathematics.

The sophomores attend to the languages, geography, logic, and mathematics.

The junior sophisters, beside the languages, enter on natural and moral philosophy and composition.

The senior class compose in English and Latin; study metaphysics, the elements of natural and political law.

The principal books used by the students are Lowth's English Grammar, Perry's Dictionary, Pike's Arithmetic, Guthrie's Geography, Ward's Mathematics, Atkinson's Epitome, Hammond's Algebra, Martin's and Enfield's Natural Philosophy, Ferguson's Astronomy, Locke's Essay, Montesquieu's Spirit of Laws, and Burlemaqui's Natural and Political Law.

Besides these studies, lectures are read to the scholars in theology and ecclesiastical history.

KENTUCKY.—The legislature of Virginia, while Kentucky made a part of that State, made provision for a college in it, and en-

dowed it with very considerable landed funds; and a library for its use was forwarded thither by the Rev. Mr. John Todd of Virginia, (after obtaining the consent of the Rev. Dr. Gordon) while an inhabitant of the Massachusetts State. This library was mostly formed in the following manner: An epistolary acquaintance having commenced between Mr. Todd and Dr. Gordon, through the influence of their common friend, the Rev. Mr. Samuel Davis, long since deceased, a letter was received about the end of 1764, or beginning of 1765, from Mr. Todd, in which he expressed a desire of obtaining a library and some philosophical apparatus, to improve the education of some young persons, who were designed for the ministry. Dr. Gordon being then settled at London, upon application obtained a few annual subscriptions, with several donations of money, and of books, which were not closed till after March, 1769. During that period he received in cash, including his own subscription, eighty pounds two shillings and sixpence. The late worthy John Thornton, Esq., contributed fifty pounds of it, by the hand of the Rev. Mr. (afterwards Dr.) Wilson, who also gave in books ten pounds. Among the contributors still living, beside Dr. Gordon himself, are the Rev. Mr. Towle, Messrs. Fuller, Samuel, and Thomas Statton, Charles Jerdein, David Jennings, Jonathan Eade, Joseph Ainsley, and John Field of Thames street.

Of the money collected, twenty-eight pounds ten shillings was paid to the late Mr. Ribright, for an air-pump, microscope, telescope, and prisms, thorough good, but not new. Cases, shipping, freight, insurance, &c., at four different periods, came to eight pounds eleven shillings and sixpence. The forty-three pounds one shilling was laid out to the best advantage in purchasing a variety of books, which, with those that were given, are supposed to make the main part of the Lexington Library.*

NORTH CAROLINA.—The General Assembly of North Carolina, in December, 1789, passed a law incorporating forty gentlemen, five from each district, as trustees of the university of North Carolina; to this university they gave, by a subsequent law, all the debts due to the State from sheriffs or

other holders of public money, and which had been due before the year 1783; they also gave it all escheated property within the State. Whenever the trustees shall have collected a sufficient sum of the old debts, or from the sale of escheated property, the value of which is considerable, to pay the expense of erecting buildings, they are to fix on a proper place, and proceed in the finishing of them; a considerable quantity of land has already been given to the university, and the General Assembly, in December, 1791, loaned five thousand pounds to the trustees, to enable them to proceed immediately with the buildings.

[The first college edifice was opened at Chapel Hill for the reception of students in Feb., 1795, under the faculty composed of Rev. David Kerr, of Trinity College, Dublin; Professor C. H. Harris, in the mathematical chair, a graduate of Princeton, and Prof. Joseph Caldwell, a native of New Jersey and a graduate of Princeton, in 1791. The latter was elected the first president in 1804.]

SOUTH CAROLINA.—Gentlemen of fortune, before the late war, sent their sons to Europe for education. During the late war and since, they have generally sent them to the middle and northern States. Those who have been at this expense in educating their sons, have been but comparatively few in number, so that the literature of the State is at a low ebb. Since the peace, however, it has begun to flourish. There are several respectable academies at Charleston; one at Beaufort, on Port Royal Island; and several others in different parts of the State. Three colleges have lately been incorporated by law; one at Charleston, one at Winnsborough, in the district of Camden, and the other at Cambridge, in the district of Ninety-six. The public and private donations for the support of these three colleges were originally intended to have been appropriated jointly, for the erecting and supporting of one respectable college. The division of these donations has frustrated this design. Part of the old barracks in Charleston has been handsomely fitted up, and converted into a college, and there are a number of students; but it does not yet merit a more dignified name than that of a respectable academy. The Mount Sion college, at Winnsborough, is supported by a respectable society of gentlemen, who have long been incorporated. This institution flourishes, and bids fair for usefulness. The college at

* As this account of the library is essentially different from that given by Mr. Morse, and every other writer we have met with, the editor thinks it right to inform the public, that he inserts the above at the desire of the Rev. Dr. Gordon himself.

Cambridge is no more than a grammar school.

[The college at Charleston graduated its first class in 1794, but its organic connection with the grammar school repressed its growth to meet the wants of a collegiate education, which was soon liberally provided for in the South Carolina College, chartered by the State in 1801, and was ever afterwards the favorite institution with both the legislature and the people.]

GEORGIA.—The charter, containing their present system of education, was passed in the year 1785. A college, with ample and liberal endowments, is instituted in Louisville, a high and healthy part of the country, near the centre of the State. There is also provision made for the institution of an academy in each county in the State, to be supported from the same funds, and considered as parts and members of the same institution, under the general superintendence and direction of a president and board of trustees, appointed, for their literary accomplishments, from the different parts of the State, invested with the customary powers of corporations. The institutions thus composed and united is denominated, "The University of Georgia."

That this body of literati, to whom is intrusted the direction of the general literature of the State, may not be so detached and independent, as not to possess the confidence of the State; and, in order to secure the attention and patronage of the principal officers of government, the governor and council, the speaker of the House of Assembly, and the chief justice of the State, are associated with the board of trustees, in some of the great and more solemn duties of their office, such as making the laws, appointing the president, settling the property, and instituting academies. Thus associated, they are denominated, "The Senate of the University," and are to hold a stated, annual meeting, at which the governor of the State presides.

The Senate appoint a board of commissioners in each county, for the particular management and direction of the academy, and the other schools in each county, who are to receive their instructions from, and are accountable to the Senate. The rector of each academy is an officer of the university, to be appointed by the president, with the advice of the trustees, and commissioned under the public seal, and is to attend

with the other officers at the annual meeting of the Senate, to deliberate on the general interests of literature, and to determine on the course of instruction for the year, throughout the university. The president has the general charge and oversight of the whole, and is from time to time to visit them, to examine into their order and performances.

The funds for the support of their institution are principally in lands, amounting in the whole to about fifty thousand acres, a great part of which is of the best quality, and at present very valuable. There are also nearly six thousand pounds sterling in bonds, houses, and town lots in the town of Augusta. Other public property to the amount of one thousand pounds in each county, has been set apart for the purposes of building and furnishing their respective academies.

[VERMONT.—In the first organization of the State, in 1777, the constitution of Vermont enjoined on the Legislature the founding of a University. In 1785 the Legislature responded to a call from Dartmouth for aid, by a grant of a township of land to that institution. In 1791 the charter of a State University was granted in furtherance of a donation of land by Ira Allen in 1789; a president was elected with a salary of \$600, a professor of mathematics with a salary of \$350, and a tutor with \$300, and from a prospectus issued at the time it was calculated that a poor scholar, by keeping school six months each winter at the average price of \$16, could pay his college bills and board, and leave college with \$32 in his pocket. The college asked only \$12 a year for each student. Small as this sum was, there were academies in the State which claimed to give as good opportunities for the scholarship required by the times, at as low, or at a lower rate, and allow the students to reside at home.

Middlebury College was chartered in 1800, and between the two institutions a local rivalry sprung up, which at times passed into belligerent legislation, and at no time rested simply on offering a better article of collegiate culture to the young aspirants of science.]

To the above account by Winterbotham, of the number, and general organization and condition of American colleges prior to 1800, we shall, as in the case of Common Schools and Academies, throw light on the instruction and discipline which prevailed in them from the communications of students.

(2.) *College Studies and Discipline about 1800.*

Judge Story, in a letter respecting the studies and discipline at Harvard between 1794 and 1798, writes in 1840:

"You express a desire to obtain some general views of the circumstances under which the students lived. I believe that this can be best done by giving you a brief sketch of the state of college, and the relation which the students had with the existing college government. Things are so much changed since that it is somewhat difficult to realize all the influences which then surrounded them. In the first place as to the course of studies. It was far more confined and limited than at present. In Greek we studied Xenophon's *Anabasis* and a few books of the *Iliad*; in Latin, Sallust and a few books of Livy; in Mathematics, Saunderson's *Algebra* and a work on *Arithmetic*; in Natural Philosophy, Enfield's *Natural Philosophy* and Ferguson's *Astronomy*; in Rhetoric, an abridgment of Blair's *Lectures* and the article on Rhetoric in the '*Preceptor*'; in Metaphysics, Watt's *Logic* and Locke on the Human Understanding; in History, Millot's *Elements*; in Theology, Doddridge's *Lectures*; in grammatical studies, Lowth's *Grammar*. I believe this is near the whole, if not the whole, course of our systematical studies. The college library was at that time far less comprehensive and suited to the wants of students than at present. It was not as easily accessible, and, indeed, was not frequented by them. No modern language was taught except French, and that only one day in the week by a non-resident instructor.

"The means of knowledge from external sources was very limited. The intercourse between us and foreign countries was infrequent, and I might almost say that we had no means of access to any literature and science except the English. Even in respect to this we had little more than a semi-annual importation of the most common works, and a few copies supplied and satisfied the market. The English periodicals were then few in number, and I do not remember any one that was read by the students except the *Monthly Magazine* (the old *Monthly*), and that was read but by a few. I have spoken of our semi-annual importations, and it is literally true, that two ships only plied as regular packets between Boston and London, one in the Spring and one in the Autumn, and their arrival was an era in our college life.

"In respect to academical intercourse the students had literally none that was not purely official, except with each other. The different classes were almost strangers to each other, and cold reserve generally prevailed between them. The system of 'fagging' (as it was called) was just then dying out, and I believe that my own class was the first that was not compelled to perform this drudgery at the command of the Senior class in the most humble services. The students had no connection whatsoever with the inhabitants of Cambridge by private social visits. There was none between the families of the president and professors of the college and the students. The *régime* of the old school in manners and habits then prevailed. The president and professors were never approached except in the most formal way, and upon official occasions; and in the college yard (if I remember rightly) no student was permitted to be with his hat on if one of the professors was there."

The system of fagging to which Judge Story alludes was one of the *barbarisms* which prevailed in the old medieval universities,* and which still prevails in the "public schools," the great endowed boarding schools of England, from which our fathers introduced it into the American college. In the laws for the government of Yale College, printed in Latin, in 1764, were appended in good plain Saxon English a code of college customs, entitled *FRESHMAN LAWS*, as follows:

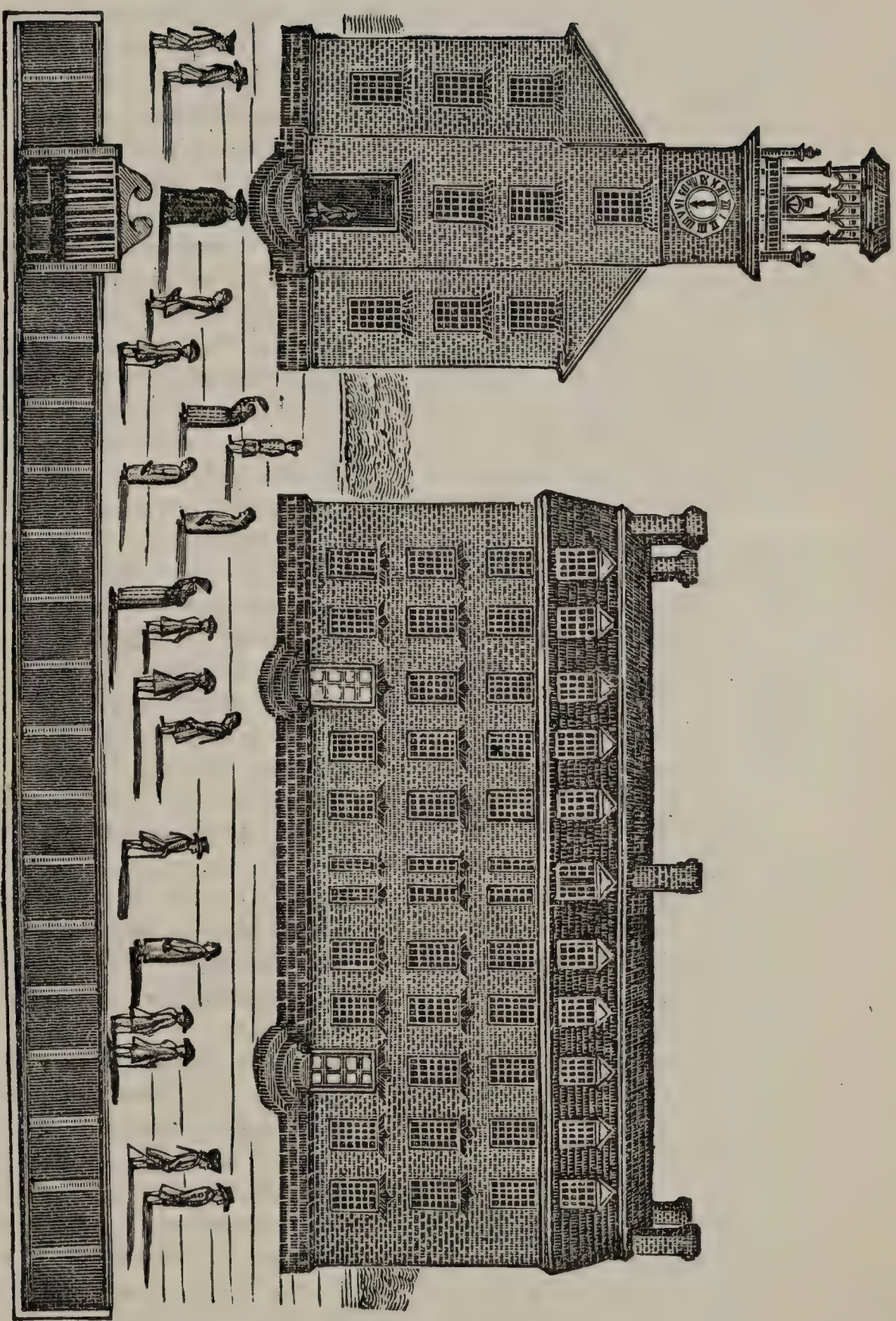
"It being the duty of the Seniors to teach Freshmen the laws, usages and customs of the college, to this end they are empowered to order the whole Freshman class, or any particular member of it, in order to be instructed or reproved, at such time and place as they shall appoint; when and where every Freshman shall attend, answer all proper questions, and behave decently. The Seniors, however, are not to detain a Freshman more than five minutes after study-bell, without special order from the President, Professor, or Tutor.

"The Freshmen, as well as all other undergraduates, are to be uncovered, and are forbidden to wear their hats (unless in stormy weather) in the front door-yard of the President's or Professor's house, or within ten rods of the person of the President, eight rods of the Professor, and five rods of a Tutor.

"The Freshmen are forbidden to wear their hats in college yard (except in stormy weather, or when they are obliged to carry something in their hands), until May vacation; nor shall they afterwards wear them in college or chapel.

"No Freshman shall wear a gown, or walk with a cane, or appear out of his room, without being

* See Barnard's "*Superior Education in different countries—Medieval Universities*, 1873."



YALE COLLEGE IN 1764.

completely dressed, and with his hat; and whenever a Freshman either speaks to a superior, or is spoken to by one, he shall keep his hat off, until he is bidden to put it on. A Freshman shall not play with any members of an upper class, without being asked; nor is he permitted to use any acts of familiarity with them, even in study-time.

"In case of personal insult, a Junior may call up a Freshman and reprehend him. A Sophomore in like cases must obtain leave from a Senior, and then he may discipline a Freshman, not detaining him more than five minutes, after which the Freshman may retire, even without being dismissed, but must retire in a respectful manner.

"Freshmen are obliged to perform all reasonable errands for any superior, always returning an account of the same to the person who sent them. When called, they shall attend and give a respectful answer; and when attending on their superior, they are not to depart until regularly dismissed. They are responsible for all damage done to any thing put into their hands, by way of errand. They are not obliged to go for the undergraduates in study-time, without permission obtained from the authority; nor are they obliged to go for a graduate out of the yard in study-time. A Senior may take a Freshman from a Sophomore, a Bachelor from a Junior, and a Master from a Senior. None may order a Freshman in one play-ground, to do an errand in another.

"When a Freshman is near a gate or door, belonging to college or college yard, he shall look around, and observe whether any of his superiors are coming to the same; and if any are coming within three rods, he shall not enter without a signal to proceed. In passing up or down stairs, or through an entry or any other narrow passage, if a Freshman meets a superior, he shall stop and give way, leaving the most convenient side—if on the stairs the banister side. Freshmen shall not run in college yard, or up or down stairs, or call to any one through a college window. When going into the chamber of a superior, they shall knock at the door, and shall leave it as they find it, whether open or shut. Upon entering the chamber of a superior, they shall not speak until spoken to; they shall reply modestly to all questions, and perform their messages decently and respectfully. They shall not tarry in a superior's room, after they are dismissed, unless asked to sit. They shall always rise whenever a superior enters or leaves the room where they are, and not sit in his presence until permitted.

"These rules are to be observed not only about college, but every where else within the limits of the city of New Haven."

Even so late as in 1800, we still find it laid down as the Senior's duty to inspect the manners and customs of the lower classes, and especially of the Freshmen; and the duty of the latter to do any proper errand, not only for the authorities of the college, but also within the limits of one mile, for resident graduates and for the two upper classes. By degrees the old usage sank down so far, that what the laws permitted was frequently abused for the purpose of playing tricks upon the inexperienced Fresh-

men; and then all evidence of its ever having been current disappeared from the college code. The Freshmen were formally exempted from the duty of running upon errands in 1804.

That these provisions were not peculiar to Yale, but belonged to this class of institutions in that and an earlier age, appears from the earliest laws for the government of Harvard College drawn up by President Dunstan in 1640. "They (the students) shall honor, as their parents, the magistrates, elders, trustees, and all who are older than themselves, as reason requires, being silent in their presence, except when asked a question, not contradicting, but showing all those marks of honor and reverence which are in praiseworthy use, saluting them with a bow, standing uncovered," &c. The mode of discipline authorized by the seventeenth rule is a recorded proof of what otherwise might have rested on obscure traditions only, that our fathers, with their cotemporaries generally, were not well informed upon the characteristics of human nature and heart. "If any student of this college, either from perverseness or from gross negligence, after he shall have been twice admonished, he shall be scourged with rods, if not an adult; but if an adult, his case shall be taken before the overseers, that notice may be publicly taken of him according to his deserts." "No scholar shall taste tobacco, unless permitted by the president, with the consent of their parents or guardians, or on good reason first given by a physician, and then in a sober and private manner." "None shall pragmatically intrude, or intermeddle in other men's affairs."

Mr. Everett in an address at Cambridge, in 1857, gives the following picture of college life as it was at Harvard in 1807:

"Let me sketch you the outlines of the picture, fresh to my mind's eye as the image in the *camera*, which the precincts of the college exhibited in 1807. The Common was then uninclosed. It was not so much traversed by roads in all directions; it was at once all road and no road at all,—a waste of mud and of dust, according to the season, without grass, trees, or fences. As to the streets in those days, the 'Appian Way' existed then as now; and I must allow that it bore the same resemblance then as now to the *Regina Viarum*, by which the consuls and proconsuls of Rome

went forth to the conquest of Epirus, Macedonia, and the East.

"As to public buildings in the neighborhood of the university, with the exception of the Episcopal church, no one of the churches now standing was then in existence. The old parish church has disappeared, with its square pews, and galleries from which you might almost jump into the pulpit. It occupied a portion of the space between Dane Hall and the old Presidential House. I planted a row of elm and oak trees a few years ago on the spot where it stood, for which, if for nothing else, I hope to be kindly remembered by posterity. The wooden building now used as a gymnasium, and, I believe for some other purposes, then stood where Lyceum Hall now stands. It was the county court-house; and there I often heard the voice of the venerable Chief Justice Parsons. Graduates' Hall did not exist; but on a part of the site, and behind the beautiful linden trees still flourishing, was an old black wooden house, the residence of the professor of mathematics. A little further to the north, and just at the corner of Church street, which was not then opened, stood what was dignified in the annual college catalogue (which was printed on one side of a sheet of paper, and was a novelty) as 'The College House.' The cellar is still visible. By the students this edifice was disrespectfully called 'Wiswall's Den,' or, for brevity, 'the Den.' I lived in it in my freshman year. Whence the name of 'Wiswall's Den' was derived, I hardly dare say; there was something worse than 'old foggy' about it. There was a dismal tradition that, at some former period, it had been the scene of a murder. A brutal husband had dragged his wife by the hair up and down the stairs, and then killed her. On the anniversary of the murder—and what day that was no one knew—there were sights and sounds—flitting garments dragged in blood, plaintive screams, *stridor ferri tractaque catenæ*—enough to appall the stoutest sophomore. But, for myself, I can truly say, that I got through my freshman year without having seen the ghost of Mr. Wiswall or his lamented lady. I was not, however, sorry when the twelvemonth was up, and I was transferred to the light, airy, well-ventilated room, No. 20 Hollis; being the inner room, ground-floor, north entry of that ancient and respectable edifice.

"Such was the physical aspect of things

within the university. With the exception of a medical department, of which the germ only existed, all the professional schools have been added since my graduation; and within the college proper the means of education have been multiplied, and the standard of attainment raised in full proportion to the progress of the country in all other respects. When I entered college, four tutors and three professors formed the academic *corps*,—men never to be mentioned but with respect and gratitude; but composing an inadequate faculty, compared with the numerous and distinguished body by which instruction is now dispensed. There was no instruction in any of the modern languages, except in French to those who chose to pay for it. The professors were those of divinity, mathematics, and Hebrew; and this venerable language was, I think, required to be studied by every student whatsoever his destination in life. A classmate of mine used to beat us all in this department, though I believe it sometimes happened to him to get hold of the wrong line in the Latin translation at the bottom of the page in the Hebrew psalter, and so made a misfit all the way down. I do not hesitate to assure our younger brethren that they enjoy far greater advantages in the means and encouragements to improvement, and more important than any other, a far higher standard of excellence than were ever enjoyed by their fathers. And this in any department of knowledge, in the study of the ancient and modern languages, in exact science, the kingdoms of nature, in ethics, and the philosophy of mind."

Dr. Dwight, in a letter written in 1813, and included in his *Travels in New England and New York*, published in 1822, gives the following summary of collegiate and superior education in New England in 1812:

The eight Colleges of New England are located and designated as follows:

Harvard College, now styled the University, in Cambridge.

Yale College, at New Haven, in Connecticut.

Dartmouth College, at Hanover, in New Hampshire.

Brown University, at Providence, Rhode Island.

Williams College, at Williamstown, Massachusetts.

The University of Vermont, at Burlington in that State.

Middlebury College, at Middlebury in the same State, and

Bowdoin College, at Brunswick in the District of Maine.

You observe that some of these seminaries are styled Universities, and some of them Colleges. You will not from this suppose that the name University indicates any superior importance, or any more extensive scheme of education. The University at Cambridge, is, in some respects, the most considerable; and in every respect the University of Vermont is the least of all these literary establishments.

The state of these institutions in the year 1812, was the following:

THE UNIVERSITY OF CAMBRIDGE. — A President; seven Professors Academical; seven Professors Medical; three Tutors; a Librarian; a Regent; a Proctor; an instructor in the French language.

The Academical Professors are,
Of Theology; of Logic, Metaphysics, and Ethics; of Rhetoric and Oratory; of the Hebrew, other Oriental, and English languages; of Latin; of Mathematics and Natural Philosophy; of Greek; and of Natural History.

The three Tutors teach,
The senior Tutor, Geography, Geometry, Natural Philosophy and Astronomy; the second, Greek; and the third, Latin.

Of the Medical Professorships,
The first is of Anatomy and Surgery; the second, of the Theory and Practice of Medicine; the third, of Chemistry and the Materia Medica; and the fourth, of Clinical Medicine.

The two remaining ones are Assistants, or Adjuncts, to that of Anatomy and Surgery, and that of Chemistry, and the Materia Medica.

The number of students the same year, was 281.

YALE COLLEGE. — A President; five Professorships Academical; and three Medical.

The Academical Professorships are,
Of Theology; of Law, Natural and Political; of Mathematics and Natural Philosophy; of Chemistry and Mineralogy; and of Languages and Ecclesiastical History.

The Medical, are
Of Anatomy and Surgery; of the Theory and Practice of Physic; and of the Materia Medica and Botany. Here also is one Professorship adjunct.

Six Tutors.
The particular provinces of these Instructors have been sufficiently explained; [two assigned to each of three lower classes, to conduct the three daily recitations in each.]

The number of students was 313.

DARTMOUTH COLLEGE. — A President; five Professorships Academical; one Medical; and two Tutors.

The Academical Professorships, are
Of Theology; of Civil and Ecclesiastical History; of Mathematics, and Natural Philosophy; of Languages; and of Chemistry.

The Medical Professorship, is
Of Medicine.
The number of students was about 150.
The number of Medical students, exceeded 50.*

BROWN UNIVERSITY IN 1811.—A President; three Professorships Academical; and two Medical.

The Academical Professorships, are
Of Law, of Moral Philosophy, and Metaphysics; and of Chemistry.

The Medical Professorships, are
Of Anatomy, and Surgery; and of the Materia Medica, and Botany.
Two Tutors; and a Preceptor of a Grammar school, connected with the University.
The number of students was 128.

WILLIAMS COLLEGE. — A President; a Vice-President; a Professor of Mathematics, and Natural Philosophy; two Tutors.
The number of students was 95.

MIDDLEBURY COLLEGE, 1812. — A President; three Academical Professors.
One of Law; one of Mathematics and Natural Philosophy; one of Languages; two Tutors.
The number of students was 113.

UNIVERSITY OF VERMONT. — A President; a Professor of Mathematics and Natural Philosophy; a Professor of the Learned Languages; a Medical Professor. There are also four other Professorships on paper. The number of students from 30 to 40.

The means of medical instruction in New England will be seen sufficiently in this account of its seminaries.

The Law School, heretofore mentioned in the description of Litchfield, as being under the instruction of Judge Reeve and James Gould, Esquire, would not, it is believed, do discredit to any country. Law is here taught as a science; and not merely, nor principally, as a mechanical business; not as a collection of loose, independent fragments, but as a regular, well-compacted system. At the same time the students are taught the practice by being actually employed in it. A court is constituted; actions are brought, and conducted through a regular process; questions are raised, and the students become advocates in form.

Students resort to this school from every part of the American Union. The number of them is usually about 40.

Every Theological Professor in these Seminaries is destined to instruct such students as apply to him in the science of Theology. But the Theological Seminary at Andover has already engrossed most of the young men in New England, designed for the desk. Three Professors, one of Theology, one of Sacred Literature, and one of Sacred Rhetoric, are already established here; and two or three more will probably be added to their number within a short time. Fifty students may be considered as the average number for three years past. As this Seminary is richly endowed, and as the gentlemen employed in its instruction, are pursuing their business with spirit and vigor, there are the best reasons to believe that it will hold a high rank among institutions of the same nature.

There are, also, in New England the following Medical societies:

- The Massachusetts Medical Society.
- The Connecticut Medical Society.
- The New Hampshire Medical Society.
- The objects of these institutions are to unite the

* By the Catalogue of 1821, the number of students in Dartmouth College, was
Under Graduates.....157
Resident do..... 8
Medical Students..... 65

gentlemen of the Faculty in friendship, and in one common pursuit of medical science; to discourage by their united influence empiricism in every form; to furnish a centre of correspondence for the reception and publication of medical discoveries; and, universally, to elevate and improve the art of healing.

A Historical Society was formed at Boston in the year 1791, and incorporated in the year 1794, by the name of the Massachusetts Historical Society. The object of this institution is to collect and publish whatever authentic documents may illustrate the past and present state of this country. Twelve volumes of its collections for this purpose have been already published; which in a very honorable manner prove the utility of the design.

An Agricultural Society has been formed in Connecticut, and another in Massachusetts. A small collection of papers, published by each, has been favorably received.

There are, also, two Philosophical Societies in New England. The American Academy of Arts and Sciences in Massachusetts, which holds its sittings at Boston; and the Connecticut Academy of Arts and Sciences, which meets in New Haven. The latter was incorporated in the year 1800. The American Academy has published three volumes. The Connecticut Academy has completed one volume of Memoirs, and also has begun the publication of a statistical account of the State. Both of these institutions are, it is believed, advancing.

I have here given you a summary, and, as I believe, an exact account of the means provided and employed for the purpose of diffusing literature, science, and general information among the inhabitants of New England.

It ought, however, to be added, that in a great part of the towns and parishes, there are social libraries established. In some places they are considerable; and in all, are of material use to the little circles in which they exist. The information which they spread is of importance. They also excite a disposition to read, and this employment naturally becomes a substitute for trifling, vicious, and gross amusements. It also contributes to render society, and its intercourse, in a good degree, intelligent and refined, while thought takes place of sense and passion; civility, of coarseness; and information, of scandal. It also enables parents to give their children better instruction, and to govern them more rationally, and at the same time it renders the children more dutiful and more amiable.

In this brief historical survey of the American College and University, founded on cotemporaneous exposition, coupled with other facts which can not here be presented for want of space in such a summary, it appears that:

1. The main purpose set forth in their foundation was "the glory of God," "Christ and the Church," "the upholding of the Protestant religion by a succession of a learned and orthodox ministry," and "the qualifying youth for public employment in church and civil state." To this end all the earlier colleges were avowedly denomina-

tional, and all the later (except a few based on the national land grants, or on large individual endowments), are practically denominational in the constitution of the governing body by which the teachers are appointed and the departments and subjects of instruction determined.

2. The instruction of the colleges, even the oldest and best, down to 1800 was given by the president and at most two professors, and two assistants, in theology (dogmatic and practical), the Latin and Greek grammars, and a little reading of Latin authors and less of Greek, a little geography, arithmetic, geometry, and logic, with disputations and declamations, and no natural science.

3. Gradually the curriculum of instruction was modified so as to drop the elementary studies, and include medicine and law, first by special professorships, and then by independent schools.

4. Still later, and recently with amazing rapidity, the natural sciences, and the application of mathematics and these sciences to agriculture the mechanic arts and manufacturing purposes, have been recognized as legitimate subjects of college education.

5. Quite recently the entire circle of language, science, and the arts both ideal and industrial, are included in the curriculum of several colleges; but as yet there is not a single institution out of the 400 so called colleges and universities chartered and endowed for purposes of superior instruction, in which the governing board and teaching corps are brought into unity of organization, administration, and instruction, and in which a broad sweep of optional studies in every department of existing knowledge and original research is open to those, and to those only, who shall prove themselves qualified before an independent board of examination to enter on such studies.

6. Following the course of secondary schools, the advantages of superior instruction are now beginning to be opened to both sexes on equal terms.

The tables appended will show, not strictly speaking, only our institutions of superior instruction, and not quite all which call themselves colleges and universities; but nearly all which are chartered by the legislatures of the States in which they are located "to confer the usual academic, collegiate and university degrees." Most of them should be classed with institutions of secondary instruction.

IV. PROFESSIONAL AND SPECIAL EDUCATION.

INTRODUCTION.

Professional and Special Schools constitute a distinct class of institutions either in the studies pursued, or the persons pursuing, and while they are not always supplementary to the colleges, and indeed some of them hardly supplementary to the secondary schools, they can not with propriety be considered except by themselves. Under this head we specify Military, Theological, Medical, and Law Schools; Normal Schools, and Teachers' Institutes; Agricultural, and Commercial, or Business Colleges and Schools; Scientific Schools, *i. e.*, for instruction in physical science, applied mathematics, Organic and Inorganic Chemistry, Practical Surveying, Natural History, Geology and Palæontology, Anthropology, and Ethnology; as well as schools of Language and Literature, *i. e.*, Philology, Linguistics, Oriental and Semitic languages and Literature, Modern languages and Literature; History, Political Economy, Ethics, and International Law; Schools of Engineering, Mining, Metallurgy, Technology and Architecture; Schools of Drawing, Painting, Sculpture, and Music; Schools and Asylums for Orphans; Schools and Colleges for Indians and Freedmen; Philanthropic Schools and Asylums, *viz.*, for the Deaf and Dumb, the Blind, and the Idiotic, and with some reference also to attempts to instruct the Insane and the Inebriates; and finally to Schools and Asylums for Juvenile offenders.

Numerous as the special schools and institutions now are in this country, numbering in all very nearly 1,000, they have all, with a single exception of a Medical School in Philadelphia, been organized within the past hundred years, and with but few exceptions since the commencement of the present century, and the most important in the past half century. We will consider them in the order given above.*

I. MILITARY AND NAVAL SCHOOLS.

The experience of the Revolutionary war occasioned a very general conviction among the officers of the American army, of the necessity for such a provision for the military education of native officers as would relieve the United States from a dependence upon

professionally trained soldiers of foreign birth. The idea of a military school of some kind, to be connected with each United States arsenal, was entertained at the close of the war, among the officers.

In the spring of 1783, General Washington requested from a number of leading officers, statements of their views on all subjects connected with the peace establishment of the United States army. In reply to this request, Colonel Timothy Pickering, then quartermaster-general, drew up an able and interesting memoir, which contains, it is believed, the first suggestion of a single central government military academy, and he also suggested West Point as a proper location for it.

President Washington's annual address to Congress of December 3, 1793, asks "whether a material feature in the improvement of a system of national defense ought not to be to afford an opportunity for the study of those branches of the military art, which can scarcely ever be attained by practice alone."

An act of Congress of May 9, 1794, authorized a corps of four battalions of artillery and engineers, to each of which were to be attached eight cadets. This was the first introduction into the military service of the United States of this term, which may be defined to signify a grade of officers between the highest non-commissioned officer, a sergeant, and the lowest commissioned one, an ensign. For the use of this corps and cadets, the secretary of war, Colonel Pickering, was authorized to procure the necessary books and apparatus. The secretary, in 1796, reports that this organization is important, and should be as stationary as practicable, with a view to instruction.

President Washington's last annual speech to Congress, December, 1796, again urged strongly the establishment of a military academy. In April, 1798, the corps of artillery and engineers was increased by an additional regiment, and the number of cadets enlarged to fifty-six. In July following, four teachers were by Congress authorized to be employed in that regiment for instruction in science and art. Some officers and men were collected at West Point, and a sort of military school opened, which, however, acted with little efficiency, owing to the want of preparatory training, and of organization.

Secretary of War McHenry, in a report

* For details, see Barnard's *Special Schools*, Vol. II., United States.

on the organization of the army, made during the expectation of a war with France, dated December 24, 1798, lamented the want of engineers and artillerists trained at home. In January, 1800, the same officer laid before the President, who transmitted it to Congress, a plan for establishing a military academy. After referring to the imperfect steps already taken in this direction, he proceeds to suggest that the proposed academy shall consist of a "fundamental school," to instruct in such departments of science as are necessary in common in all the arms of the military force; and three special schools, one of engineers and artillerists, one of cavalry and infantry, and one of the navy. The institution was to be in charge of a director-general, four directors, twelve professors, and nine other instructors. This school, so far as Secretary McHenry recommended its immediate establishment, was to accommodate annual classes of one hundred pupils each, for courses of four and five years.

(1.) *Military Academy at West Point.*

The Military Academy at West Point, according to Colonel Williams' report in 1808, was first opened in 1801, as a "mathematical school for the few cadets that were then in service," and under a private citizen. In 1802, an act of Congress separated the artillerists and engineers, distributing the cadets of the former class among the twenty companies of that arm, and constituted the engineers the Military Academy, making it consist of seven officers and ten cadets.

The operations of the school continued to be deficient in order and efficiency for some years, mainly from want of proper and energetic administration, and a well-adjusted course of study. In 1812, it was much enlarged, and its organization quite changed. The period from 1817 to 1824, however, during which a thorough course of theoretical and practical studies, properly adapted to the military profession, was for the first time introduced, marks the establishment of the academy as a military and scientific school of high grade and value. There have been several modifications of the course of studies and regulations since 1818, increasing the studies, and raising somewhat the standard of admission which is still, however, too low. In 1859, the course of study was extended to five years, and the classes which graduated in 1859, 1860, and May,

1861, received five years instruction. But the exigencies of the war demanded a larger number of young officers who had a military training, and accordingly the class next in order were graduated in June, 1861, and since that time the course of study has been only four years. The superintendent of the academy is always an officer of not lower rank than colonel, a graduate of the academy who had ranked high on his graduation, and who has seen much active service. Beside the superintendent there were, in 1872, 49 professors, instructors and other officers employed in the work of instruction. The Academic Board is composed of twelve—ten professors, and the superintendent and commandant of cadets.

The number of cadets who may be appointed annually is one from each Congressional district and territory, and ten appointed by the President, at large. The applicants must not be under seventeen or over twenty-one years, (except volunteers or regulars in the late war who had served faithfully not less than one year, who are eligible till they are twenty-five. All applicants must be unmarried, and are not allowed to marry before graduation. Each candidate must be able to read and write the English language correctly, and to perform with facility and accuracy the various operations of the four ground rules of arithmetic, of reduction, of simple and compound proportion, and of vulgar and decimal fractions; and have a knowledge of the elements of English grammar, of descriptive geography, particularly of the United States of America, and of the history of the United States. They are examined in June, but are not admitted to full cadetship until the following January, when they are required to sign an agreement that they will serve in the army of the United States for eight years, unless sooner discharged by competent authority, and take the following oath, the phraseology of which has been somewhat modified since the commencement of the late civil war: "I solemnly swear that I will support the Constitution of the United States, and bear true allegiance to the National Government; that I will maintain the sovereignty of the United States, paramount to any and all allegiance, sovereignty, or fealty I may owe to any State, county, or country whatsoever; and that I will at all times obey the loyal orders of my superior officers, and the rules and articles governing

the armies of the United States." The allowance to the cadet by the Government is about \$610 per annum, which is all paid out by the Treasurer of the academy, and charged to the cadets, no money being allowed in the hands of the cadets during the entire course. The regulations are very rigid, and while about 28 per cent. of the applicants for admission are rejected, the demerit system which regulates the class-standing of the cadet results in the dismissal of nearly forty per cent. in the four years.

(2.) *The United States Naval Academy.*

After years of agitation in Congress, going back to the Continental Congress of 1775, and the recommendations of nearly every President, and the secretary in charge of naval affairs, the Naval Academy at Annapolis, Maryland, was organized in October, 1845, by the efforts of Hon. George Bancroft, then Secretary of the Navy.* Prior to the letter of Mr. Bancroft, which concentrated all the midshipmen then attached to vessels at sea under a schoolmaster, or collected at the Naval Asylums at Philadelphia, or stationed in the Navy-yards of Boston, New York, and Norfolk, much was done to familiarize the young aspirants with the practical duties of their profession. During the infancy of the academy several plans of an experimental character were tried, which led gradually to the adoption of the system of instruction now in operation. Midshipmen who had made a cruise at sea, were first sent to the academy for a term of nine months, to prepare for their final examination, which practice was continued until 1847. In that year a board of officers recommended a course of four years at the academy, viz., two years before, and two years after a cruise at sea. This plan went into operation, but it was soon abandoned, owing to the constant demand for midshipmen at sea during the Mexican war, and it was not until 1851, that the present uninterrupted course of four years at the academy was inaugurated.

Candidates are appointed upon the recommendations of members and delegates in Congress, to the Secretary of the Navy, on precisely the same terms as candidates for the Military Academy, and the President appoints ten, at large, as in the course of the candidates for West Point. They

are admitted between the 20th of September and the 1st of October of each year, and if successful in the preliminary examination, are permitted to assume the naval uniform, and in the capacity of acting midshipmen begin their career on the school-ship "Dale," a third rate, sailing vessel of 675 tons, now stationed at Annapolis. The requirements for admission are now the same as at West Point, and the ages for admission from 16 to 18 years. In the autumn of 1872 the whole number was 260, and this included a class of 34 naval engineers. During the summer vacation two of the classes are drafted on board the practice-ship, to make a cruise at sea, to aid them in acquiring the duties of an officer and a sailor, and becoming familiar with the rigging and evolutions of a ship. They are subjected to eight severe examinations, and if successful in all, they receive a midshipman's warrant, and after two years of sea service they return for a final examination, which, if successful, gives them the warrant of passed midshipman; and further promotion depends for its speediness upon good conduct, the existence of war, naval expenditures, &c. The Superintendent of the Naval Academy is selected from officers not below the rank of commodore, and is assisted by an executive officer and twenty professors, and assistant professors. There is a valuable library of 20,000 volumes, and scientific apparatus, belonging to the academy.

Connected with the Naval Academy, a special course of instruction for a class of assistant engineers, was organized in 1865, under an act of Congress (July 4, 1864), and suspended in 1868, to be again instituted under regulations of the Secretary of the Navy issued in 1871.

(3.) *State, Incorporated and Private Schools.*

In 1820, Captain Alden Partridge, who was one of the earliest graduates of the National Military Academy, and associated with its instruction and administration, as assistant professor, professor, and superintendent, from 1808 to 1815, began to agitate the subject of a union of military and scientific studies with the ordinary literary curriculum of the American College, and in September of that year opened at Norwich the American Literary, Scientific, and Military Academy, which received in the course of the four years following, 480 pupils, representing twenty-one out of the twenty-four States. In 1824 the institution was re-

* Barnard's Military Schools, p. 895.

moved to Middletown, Conn., and after 1828, twelve hundred pupils were instructed, for periods averaging two years, in such courses as they had the privilege of electing—but all were trained in the theoretical part of military science, and in the practical duties of the soldier, and in graduation were qualified to discharge the duties of a company officer, and, if necessary, to command a battalion in any corps of the army. Every year a military march was performed, in some cases extending to several hundred miles, and frequent scientific surveys, and reconnaissances, were made under the direction of the professor of civil engineering. The various military schools which subsequently sprung up in different parts of the country originated for the most part with Captain Partridge's pupils. He was himself connected with the Military Institute at Portsmouth, Va., in 1839, and with the Military College at Brandywine Springs, near Wilmington, in the State of Delaware, in 1853, and with the revival of the Seminary at Norwich, Vt., after the incorporation of the Wesleyan University at Middletown, in which the Literary, Scientific, and Military Institute was merged.

The most successful of the State Military Institutes is that at Lexington, Va., which was organized by Colonel Francis H. Smith, a graduate of the Military Academy at West Point, in the class of 1813, and professor there from 1834 to 1836. The State makes an annual appropriation of \$15,000 for its support, on the basis of which 36 cadets are admitted without charge, in consideration of which they are required to teach in some school of the State for two years after graduation. Any commissioned officer of the militia of the State of Virginia, can become a student for a period not exceeding ten months, and receive instruction in any or all of the departments of Military science taught there, without charge for tuition. In the war of the Rebellion one tenth of the Confederate armies was commanded by the students of this school, embracing three major-generals, thirty brigadier-generals, sixty colonels, fifty lieutenant-colonels, thirty majors, one hundred and twenty-five captains, and over two hundred lieutenants. To the same armies, the Military Institute at Frankfort, Ky., the Cadet corps connected with the State arsenals in Norfolk, Richmond, Charleston, and other Southern cities, and the State Military In-

stitutes in Alabama and Louisiana, furnished a large number of subordinate officers, which facilitated the early and better organization of the confederate forces.

(4.) *Military Tactics in State Scientific Schools.*

In the act of Congress (July, 1862), making grants of public lands to the several States for the endowment of State Schools of Agriculture, and the mechanic arts, it is provided that military tactics shall be included in the system of instruction*; and by an act of March, 1869, the President is authorized to detail an army officer to each institution, to instruct in such tactics. With these two provisions, and more efficient legislation, State and National, a system of military instruction associated with scientific studies generally, will be developed, which will at once develop the physical powers of the pupil, and train up a large body of well-educated men, ready to meet the exigencies of the public service as against foreign invasion, or domestic insurrection.

II. THEOLOGICAL SCHOOLS OR SEMINARIES.

Before the Revolutionary war, and indeed for some years after, no distinct school or institute for theological training was known in this continent. In New England, New York, New Jersey, and Pennsylvania the most eminent clergymen of the Congregationalist, Presbyterian, and Reformed (Dutch) churches, and later of the Baptist and Methodist churches, were in the habit of receiving into their families several students, usually graduates of the colleges, who served an apprenticeship under their direction in exegesis, the composition and delivery of sermons, and in the observation and practice of pastoral duties. Sometimes, if the clergyman was very eminent either as a preacher or a theologian, he would have a considerable number of students in his family at the same time, and his instructions assumed a more formal and systematic character. The most noted of these gatherings, suggestive of the subsequent organization of theological schools, were Rev. Dr. Bellamy's classes at his home in Bethlem, Conn., and a little later those of Dr. Hopkins in Hadley, and Dr. Emmons in Franklin, Mass.; the "Log College" of Rev.

* For an account of the system adopted in the Cornell University at Ithaca, N. Y., the State Agricultural College at Amherst, Mass., the State University in Louisiana, see Barnard's "*Military Schools*." In the same volume will be found notices of various private military schools, by E. L. Molineux.

William Tennent at Neshaminy, Bucks Co., Pa., opened about 1728; a preparatory school opened by Rev. John Smith, and afterward conducted by Rev. Dr. Anderson, in Western Pennsylvania, about 1778; the instruction given to Baptist theological students in the early years of the present century by Rev. Dr. Staughton at Philadelphia, and by Rev. J. Chaplin, D.D., at Danvers, Mass. The colleges, too, it must be remembered, provided for more theology than they now do. William and Mary College, Virginia, had a Professorship of Divinity as early as 1693; Harvard, the Hollis Professorship of Divinity in 1721; and Yale, the Livingston Professorship in 1746. The college of New Jersey had a Theological Professor in 1769, Dartmouth College in 1782, and Brown University in 1791.

The first independently organized Theological Seminary was that of the Reformed (Dutch) Church at New Brunswick, founded in 1784 or 1785; the next was the Seminary of St. Sulpice (Roman Catholic) at Baltimore, Md., founded in 1791; a year later the Associated (Presbyterian) Church founded one at Canonsburg, Pa., now we believe extinct. In 1794 another branch of the same church (now United Presbyterians) established one at Xenia, Ohio. These were all the theological seminaries in the United States before 1800. In that year the very large Roman Catholic Seminary connected with Mt. St. Marys College, Emmitsburgh, Md., was organized. Andover Theological Seminary, the largest and oldest of the Congregationalists, was established at Andover, Mass., in 1807, and the Moravian Seminary at Bethlehem, Pa., the same year. The Cambridge Divinity School, Cambridge, Mass., (Unitarian,) was founded in 1811. The Princeton Theological Seminary (Presbyterian) dates from 1812; the Hamilton Theological Institute, Hamilton, N. Y., (Baptist,) in 1820; the General Theological Seminary (Episcopal) at New York City, in 1817; Hartwick Seminary (Lutheran) at Hartwick, N. Y., in 1816; Mercersburg, now Lancaster, Pa., Seminary (German Reformed) in 1825; the General Biblical Institute (Methodist Episcopal) at Concord, N. H., in 1847; the Seminary at Lewiston, Me., (Free Will Baptist) in 1830; the Bible Department of Eureka College (Christian or Disciples), Eureka, Ill., in 1852; and the Canton Theo-

logical School at Canton, N. Y., (Universalist) in 1858. There are now (about) 120 Theological Seminaries in the United States, with 400 Professors and (about) 3,400 students.

III. LAW SCHOOLS.

The legal profession during the colonial period were, with few exceptions, very poorly qualified for the practice of the law. A few young men of the wealthier classes visited the mother country and entered at the Inner or Middle Temple in London, and having been admitted to the bar there, returned to the colonies and practiced their profession, and most of these received students in their offices, who gained some practical knowledge of law in the course of a long apprenticeship, but very few were familiar with the great principles which underlie all law, or their practical application to the cases which came up in their practice. Most of the eminent lawyers of the Revolutionary period (and some of them were men of great ability) were educated abroad. In 1784 the first law school in the United States was established at Litchfield, Conn., by Judge Reeve, who associated Judge Gould with him in 1798, and the two maintained the school together till 1823, when Judge Reeve died. In 1827 Judge Gould retired, and the school was given up. Messrs. Reeve and Gould were both men of great learning and tact, and by their instructions seven hundred and fifty lawyers were trained in the legal profession, many of whom have reflected the greatest honor upon it. There had been a Professorship of Law in William and Mary Colleges established about 1730; Brown University had one in 1790, but there was no law school connected with any college or university till 1817, when the Dane Law School of Harvard University was established. The Yale Law School was founded in 1820, and reorganized in 1843. In 1825 a law school was organized as a department of the University of Virginia, and in 1826 one at Washington, as a department of the Columbian College. There are now in the United States 40 law schools, with 140 professors and nearly 2,000 students.

IV. MEDICAL SCHOOLS.

During the colonial period a few physicians were educated abroad, in the medical schools of Edinburgh, London, and Paris, and some who had already obtained a

medical education emigrated to the colonies to practice. Among the latter was John Winthrop, the first physician of the New Haven Colony, and more than one of the early celebrities of New York, Philadelphia and Boston. Among the former were Dr. Shippen and Benjamin Rush of Philadelphia, Drs. Bard and W. P. Smith of New York, Drs. John Brockett and the Elder Munson of New Haven, and other of the New England Colonies. But the greater part of the physicians of that period received their only training in the offices and practice of the more eminent members of the profession, and were licensed either by the legislature or where these existed by county or colonial societies of physicians. The tendency of this practice of licensing was evident in the gradual lowering of the tone and culture of the profession, and its more eminent members lamented it. In 1762, Dr. Shippen of Philadelphia commenced lecturing on Anatomy to a class of young men who were studying medicine, and in 1765 he succeeded in making a sufficient degree of interest among the physicians of the city to organize the Medical Department of the University of Pennsylvania. Attempts were made soon after to organize a medical school in New York, but no permanent establishment was effected there till some years later. In 1782 or 1783, the Medical Department of Harvard University was established in Boston. In 1796, the Hanover Medical School, a department of Dartmouth College, was founded. Two or three short lived schools were set up in New York City, but none which had much reputation till the incorporation of the College of Physicians and Surgeons in 1807. There are now 57 medical schools or colleges of the regular practice in the United States, with about 100 professors and 6,000 students. About 1835 the pupils of Hahnemann began to introduce the Homœopathic practice into this country, and there are now six schools of this practice, with 80 professors and about 500 students. There are also four Eclectic and two Botanic Medical schools, with 40 professors and nearly 500 students. Of the regular medical schools four are exclusively for women, and two others admit both sexes. Of the Homœopathic schools, one is for women and one admits both sexes. Under the general head of schools of medicine must be named, also,

the Dental Schools or Colleges, of which there are nine, with 70 teachers and about 300 students; and the Schools or Colleges of Pharmacy, of which there are sixteen, with 50 professors and about 600 students. The tables appended give full particulars of all these schools.

V. NORMAL SCHOOLS AND TEACHERS' INSTITUTES.

Although teaching is not admitted with us to the rank of a learned profession, there has long been a conviction in the minds of the most eminent teachers and scholars that a process of careful training and instruction in the art of teaching was necessary, or at least desirable, for those who proposed to follow it as a calling. Three centuries ago Richard Mulcaster, upper-master of St. Paul's school, and afterwards head-master of Merchant Taylors' school, in his "Positions" published a plea for a college for the training of teachers, including a plan which in latter times has been but little amended. The teachers of the colonial period, as we have already shown, were not trained to their work in any institution designed specially for the instruction of teachers, and for the want of this training, while many became eminent by natural aptitude, the majority were less successful than with their remarkable natural qualities they should have been.

The first suggestion in this country looking toward the establishment of schools analogous to our Normal School,* was made in the *Massachusetts Magazine* for June, 1789, in an article by Elisha Ticknor, advocating the establishment of county schools "to fit young gentlemen for college and school keeping." It was just fifty years after (1839) that this suggestion bore fruit in a resolution which authorized the establishment of Normal Schools in Massachusetts. In 1816, Denison Olmsted, subsequently Professor of Mathematics in Yale College, in his Master's Oration proposed the establishment by the State of Connecticut of an academy to train *schoolmasters* for the State common schools. In 1823, the Rev. Samuel Read Hall opened a select school at Concord, Vt., in which he advertised to give a course of instruction adapted to teachers. In 1825, two series of articles were published almost simultaneously, one in Hartford, Conn., by Rev. Thomas H.

* See History of Normal Schools in Barnard's *American Journal of Education*, Vol. 13, p. 756.

Gallaudet, and the other in Boston by James G. Carter, Esq., proposing, each without any knowledge of the other's views, among other things the establishment of a seminary or institution for the education of teachers. These two series of papers were soon after published in pamphlet form. In 1827, Mr. Carter,* with some assistance from the town of Lancaster, Mass., established there a private seminary for the instruction of teachers. From 1830 to 1842 a seminary for the instruction and training of teachers was maintained in connection with Phillips Academy, Andover, under the charge of Rev. Samuel Read Hall.* In the same year, (1826,) W. R. Johnson,* then residing in Germantown, Penn., without any knowledge of the views of Messrs. Gallaudet and Carter, published a pamphlet entitled "*Observations on the Improvement of Seminaries of Learning*," in which he set forth the necessity and advantages of schools for the special training of teachers. The same year Governor DeWitt Clinton, in his annual message to the Legislature of New York, commended to their consideration the education of competent teachers, and in 1826 recommended the establishment of a seminary for this purpose, in which the methods of Lancaster should be adopted. For several years following, this matter occupied the attention of the committees of education in the New York Legislature, and efforts were made in 1835 to provide normal instruction through the academies of the State by appropriations for that purpose from the literature fund, but these failing in producing the desired result, the State Normal School in Albany was established in 1844, and in 1867 provision was made for four more in different parts of the State. But Massachusetts preceded New York in the establishment of Normal Schools by five years.

After twelve years of agitation in Massachusetts by James G. Carter, George B. Emerson, Charles Brooks,† the Secretary of the Board of Education, Hon. Horace Mann, and the noble gift (\$10,000) of Hon. Edmund Dwight, seconded by other devoted friends of education, three Normal Schools, at Lexington (afterward removed to West Newton, and later to Framingham), Westfield, and

Bridgewater, the first exclusively for women, the other two for both sexes, were established in 1839. In 1854, another, also for women only, was established at Salem. There are now in the United States between eighty and ninety institutions designated Normal Schools, aside from city training schools, and normal departments in colleges and seminaries which profess to give instruction in the art of teaching. In these schools and departments there are about 475 teachers, and nearly 12,000 pupil-teachers. The location, special character, and attendance of the more prominent of these institutions will be found in the table appended.

The course of study in these schools extends over two or three years for those who wish to graduate, though those who are qualified to do so can enter the advanced classes. Generally there is no instruction in either ancient or modern languages, except English; but in some of the Western Normal Schools, Latin, Greek, and German are optional studies. Aside from the languages (which are pursued by a very small number) the course comprises the studies of our best High Schools, with extra drilling on the elementary branches and the art of teaching. The instruction in all the branches is twofold in its character; aiming to impart a thorough knowledge of the subjects taught to the teacher pupils, and displaying also the best methods of communicating this knowledge to children. As theory and practice should go together, experimental and model schools are usually connected with the Normal Seminary in which the students learn by observation and actual practice how to organize, manage, and teach ordinary graded schools.

Normal Schools have accomplished a great amount of good in raising the standard of qualifications required of the teachers of our public schools, and the range of studies taught in them, and there is a fair ground of hope for their still greater usefulness in the future; but to this end certain improvements in their management are necessary, which we may briefly indicate here: 1st, There should be a materially higher and uniform standard of attainment required for admission to them. At present very little more than the most elementary knowledge of reading, writing, arithmetic, and primary geography, grammar, and history are demanded. With this advanced standard of admission, the two or

* Barnard's Normal Schools and other Institutions for the Professional Training of Teachers.

† For special notice of the labors of Rev. Charles Brooks, see Barnard's *American Journal of Education*, Vol. I., p. 587; XVI., p. 89; XVII., p. 721.

three years course would be of much greater service. 2d, The pupils should be induced, if possible, to remain through the entire course, as whatever may be their previous scholarship, they can not in a shorter time acquire the best methods of teaching what they may know very well. 3d, The German language, and perhaps also a moderate knowledge of Latin and French should form a part of the complete course. There should also be a more extensive or post graduate course, to qualify teachers for the higher positions, such as principals of higher schools or academies, professors in colleges, similar in character to the philological and pedagogical seminaries on the continent of Europe, and at least one for the training of teachers and professors of scientific schools. It is perhaps too early for the organization of training schools for the technical arts and trades, such as for first-class printers, booksellers, &c., like those of Leipsic and the other German cities. 4th, The faculty of instruction is in most of these institutions too small for the number of pupils, and for efficient instruction. 5th, There is a great necessity for endowments or of scholarships to reduce the expense of the prolonged residence of poor but promising pupils. 6th, There should be a better defined gradation of the pupils and a minimum standard of attainment prescribed in each grade, failing to attain which the pupil should not receive the diploma of his grade, whether as a teacher of primary, intermediate, grammar, or high schools. 7th, The examinations should be by papers, and very thorough and searching, accompanied by trial-lessons in the model school, or any ordinary public school.

Teachers' Institutes and Associations.

Another less perfect but highly beneficial method of improving teachers in their work is the Teachers' Institute. A Teachers' Institute is a voluntary assembling of the teachers of a county, assembly, congressional or judicial districts at some central point, for instruction for one, two, three, or even six weeks, by competent instructors or lecturers in the best methods of teaching the studies pursued in our public schools. The exercises are also varied by singing, readings, and recitations, discussions on school topics, and the reading of essays on the various methods of imparting instruction, in which parents and citizens take part.

The first assembly of teachers of this kind was held at Hartford, Conn., in 1839, solely at the expense and on the suggestion of the then Secretary of the Board of Commissioners of Common Schools in Connecticut.* It was remarkably successful, and was repeated in the spring of 1840. The beneficial results of these gatherings were so evident that they were soon adopted and provided for by the Legislatures of most of the Northern and Western States. In Pennsylvania they were held in each county, and gatherings for a longer term (from six to twelve weeks) under the title of Normal Institutes, were held in each judicial district. These assemblages, though not fully a substitute for Normal Schools, yet in some respects exert even a more beneficial influence. They enlist the interest and sympathies of parents and citizens, as well as of the children; bring the teachers of a county or district into more intimate acquaintance with each other, rouse a healthy spirit of emulation, and develop an *esprit de corps* among the teachers which will lead to better views of their profession and greater zeal in it. Probably not less than 50,000 teachers annually enjoy the benefits of this inexpensive course of instruction.

Another class of organizations for the advancement of the teachers' profession is found in the State and other Teachers' Associations. One of these have been in existence over forty years, but the greater part have come into being within thirty years. They occupy their sessions largely with the discussion of methods and systems of teaching, text-books, apparatus, periodicals, &c., but find some leisure for the promotion of the financial, social, and moral advancement of the profession. Most of these associations own or control an educational periodical, in which teachers discuss methods of instruction with great freedom, and with constantly increasing ability.

VI. SCHOOLS OF APPLIED SCIENCES.

1. *Agricultural Schools and Colleges.*

There have not been wanting for the last two thousand years writers who have made it their business to impart instruction to their readers in regard to the culture of their fields, the rearing of cattle, the succession of crops, and the care of the vine.

* See Barnard's *American Journal of Education*, Vol. 17, p. 804.

The writings of Cato, Virgil's *Georgics*, the *Essays* of Pliny, Varro and Columella, and later Virgil Polydore, Sir Anthony Fitzherbert, Thomas Tusser, Barnaby George, Walter Blithe, Richard Westen, Jethro Tull, Arthur Young, and Albrecht von Thaer, are full of instruction in regard to agriculture, both as a science and an art. The first suggestion of a school or college for instruction in agriculture, so far as can now be ascertained, was made by Samuel Hartlib, in an essay published in 1651. This was seconded by Abraham Cowley in 1661, in a treatise on the foundation of a Philosophical College, and an essay on agriculture. These suggestions bore no fruit for nearly one hundred and fifty years. An attempt was made to establish an agricultural school in the park of Chambord in France, by the Abbé Rosier, in 1775, but owing to the impending revolution in France it was unsuccessful. De Fellenberg's Agricultural School at Hofwyl, Switzerland, projected in 1799, but not fully organized till 1806 or 1807, was really a Normal School, with its course of lectures on agriculture forming one of its branches of instruction, and its practice of agricultural labor by the pupils of the school. An agricultural school of higher order and more directly devoted to instruction in both the science and the art, was that founded in 1799 by Prince Schwartzberg at Krumau, in Bohemia, and which is still in existence. Albrecht von Thaer founded an agricultural school at Celle, in Hanover, in 1799, which was subsequently transferred to Möglin, and with greatly enlarged facilities became in 1810 the Royal School of Agriculture in Prussia, and is still continued. He was Professor of Agriculture in the University of Berlin from 1810 to 1828. Its course of instruction is very thorough, and its illustrative collections ample. There are now more than four hundred agricultural schools in Europe, about thirty of them of the highest grade, among which the most celebrated are those of Hohenheim in Wurtemberg, Schleissheim in Bavaria, Poppelsdorf, Glasnevin in Ireland, Plagwitz in Saxony, and Cirencester, England.*

In the United States, though there had been much discussion and the desirableness of agricultural schools was generally admitted, there was no successful effort for their

establishment till about 1854, though the "Cream Hill Agricultural School at West Cornwall, Conn, a private boarding school for boys, in which agricultural studies were mingled with those of the usual course of the secondary schools, had been in existence since 1845; and there had been an annual course of about 30 lectures on agriculture given in Yale College since 1847. The Michigan State Agricultural College at Lansing was projected in 1850, but was not opened till 1857. The Farmers' High School of Pennsylvania, now the Pennsylvania Agricultural College, near Bellefonte, Center Co., Pa., was projected in 1854, opened in 1856, and reorganized in 1859. The Farmers' College, at College Hill, near Cincinnati, and the Agricultural College at Cleveland, Ohio, both commenced their course of instruction about 1856, as did also the Westchester Farm School, a private institution, under the charge of Messrs. Henry S. Olcott and Henry C. Vail. The New York State Agricultural College at Ovid, after a struggle of four or five years, broke down completely, and finally was succeeded by Cornell University, which has a flourishing agricultural department. Maryland founded a State Agricultural College at Hyattsville in 1857. Iowa established a "State Agricultural College and Model Farm" in 1858, but it was in an embryonic state for several years. These were, we believe, all the agricultural colleges or schools giving direct instruction in the science of agriculture previous to 1863.

On the 2d of July, 1862, the President of the United States signed an act of Congress known as the Agricultural College Land Grant, which provided that there should be granted to each State thirty thousand acres of the unsold and unreserved lands of the United States for each Senator and Representative such State was entitled to in Congress, said lands to be sold by each State or its assigns, and the proceeds of such sale to constitute a fund which should be safely invested, the interest to be used to aid in the maintenance "of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical

* A full description of the schools designated will be found in Barnard's *Scientific and Industrial Education*. NEW YORK. STEIGER, 1872.

education of the industrial classes in the several pursuits and professions in life."*

The passage of this act gave a powerful impulse to the organization of Agricultural Schools or Colleges. In 1871 thirty-four States had accepted the national grant, and thirty of these had taken measures either for the endowment of an agricultural department in some existing institution or for the establishment of a new College of Agriculture and the Industrial Arts. In New England, four of the States, Vermont, New Hampshire, Connecticut, and Rhode Island bestowed their share of the national grant on already existing historic institutions in their respective bounds,—the University of Vermont, Dartmouth College, Yale College, and Brown University, in each of which departments of agriculture and the mechanic arts have been established. Maine founded a "State College of Agriculture and the Mechanic Arts" at Orono; and Massachusetts, dividing her grant, gave one-third to the Institute of Technology at Boston, and two-thirds to a new Agricultural College founded at Amherst, but having no direct connection with the existing college there. In New York, after some experiments in other directions, the magnificent grant of 990,000 acres of land was bestowed as an endowment upon the new but already flourishing Cornell University, whose curriculum embraces the widest possible diversity of studies. In Ohio, Indiana, Illinois, Kansas, Minnesota, Oregon, and West Virginia new institutions have been founded, though that of Minnesota was subsequently made a part of the State University already in existence. In Indiana, the Purdue College, and in Illinois, the Illinois Industrial University are liberally endowed, and give promise of becoming efficient institutions. Pennsylvania, Michigan, Maryland, and Iowa, have bestowed their grants upon Agricultural Colleges already existing in their respective States, greatly to their advantage and usefulness. New Jersey, Delaware, Virginia, North Carolina, Georgia, Mississippi, Louisiana, Tennessee, Kentucky, Missouri, Wisconsin, and California have intrusted theirs to literary institutions already existing to form in them departments of Agriculture and the

Mechanic Arts. In all, then, there are thirty of these agricultural colleges, schools, or departments already in operation, which have received the national grants, and several others, in which agricultural science forms an important though somewhat subordinate section of a scientific course.

The course of study in agriculture varies in these institutions from a variety of causes. In some, it is wholly theoretical; in others, theory and practice of agriculture are mingled in diverse proportions. In some the highest scientific principles, the analysis of soils and products, the adaptability of natural and artificial manures to particular soils, the geology, mineralogy and botany of particular sections, the mathematics of agriculture, the requirements of temperature, the influence of locality upon crops, the laws of forest growth, and the sciences of draining and irrigation, occupy the time of the student; others, with an eye to more immediate results, devote their time and instruction more fully to practical details, such as the rearing of cattle, sheep, and swine; the diseases to which each are subject; the best methods of fattening and marketing them; the culture of the vine, and of small fruits; of the different grains; market gardening; the cultivation of fruit, or the methods of silk, hop, or tea culture. Each of these systems has its advantages, and the accomplished agriculturalist should attain a knowledge of all. Agricultural schools, it will be seen from this brief review, are yet in their infancy in this country, and there is yet great room for progress in their management and instruction.

2. *Commercial Schools or Business Colleges.*

These are entirely of modern creation, the oldest of them having been organized in 1850. Considerably more than one-half of them, and among the number those most widely advertised and most largely attended, are private enterprises, adventure schools as they would be termed in Great Britain, started purely as business speculations. The time required for their course of instruction varies from thirty days to two years. They give instruction in penmanship, book-keeping in all its branches, business forms and technicalities, and some of them in banking and finance, exchange, insurance, postal regulations and service, custom-house brokerage, and telegraphy. In a very few, instruction is given in French and German to an extent sufficient for busi-

* The credit of originating and conducting this act through Congress belongs to Hon. J. S. Morrill, on its first introduction a member of the House, and subsequently of the Senate, from Vermont. In 1873 he secured an additional act by which a portion of the land sales hereafter is assigned annually to the State Agricultural Colleges.

ness correspondence. Most of these studies should come into the regular course of our Grammar or Secondary Schools, and these should be supplemented by evening schools for those who are unable to attend in the daytime. In the absence of this legitimate school instruction they have undoubtedly proved of advantage to many of those who sought a business training. There are in all about ninety of these commercial schools. The number of teachers in them is nearly or quite 200, and of students about 8,000.

3. *Scientific Schools Proper.**

Under this head we include Schools of Technology or Science, in its applications to the useful arts and business; Schools of pure Science, as higher mathematics, natural history, physical science; Schools of Engineering, civil or military; Schools of Mines and Mining Engineering; Schools of Philology and Linguistics; Schools of Architecture, and Schools of the Fine Arts (drawing, painting, sculpture, and music.)

The first of these scientific schools in the order of time, and one of the first in the order of merit, is the Rensselaer Polytechnic Institute at Troy. This institute grew out of the efforts of the "patroon," late Stephen Van Rensselaer, to promote the diffusion of practical science among the farmers and mechanics of the State of New York. In 1820 and 1821 he had caused a geological and agricultural survey of the counties of Albany and Rensselaer to be made at his own expense, and had also procured the services of the late Prof. Aner Eaton, and the late Professor and President of Amherst College, Dr. Edward Hitchcock, to survey a transverse section from Boston to Lake Erie, noting its geological structure, the varieties of soil and analyzing the soils and crops of this section. In 1823 and 1824 he employed Prof. Eaton and a number of competent assistants to traverse the State on the line of the Erie Canal and deliver popular lectures on philosophy, chemistry, &c., with experiments. In the autumn of 1824 he founded the Rensselaer Institute at Troy, for the purpose at first of giving instruction in Natural History, Geology, and Chemistry, as well as in the higher Mathematics and Physics. For fifteen years he sustained this school in great part from his own ample means, giving free tuition to one student from each county, on the recommendation

of the County Clerk, but requiring that these students should teach for one year in their own counties. After Gen. Van Rensselaer's death, Civil Engineering was made a prominent feature in the course of study, and with the pecuniary aid of the Van Rensselaer family, it continues its high position as a school of science and engineering.

In many instances the schools organized under the national grants of lands, or receiving aid from these grants, include one or more of these classes of schools with their instruction in agriculture. Instruction in mechanics, by the terms of the act, is included in all or nearly all of them; and where the endowment has been bestowed upon a scientific school already in operation, physical science, engineering, mining, &c., have also been included. There are a considerable number of schools which do not participate in these national grants, but are more or less liberally endowed from other sources. Among those most largely endowed we may name Lehigh University at South Bethlehem, Penn., which has received from Hon. Asa Packer, in all about one million dollars; the Stevens Institute of Technology at Hoboken, N. J., whose endowment, aside from land and buildings, is \$500,000; the Scientific Department of Lafayette College, Easton, Pa., amply endowed by Mr. Pardee; the Massachusetts Institute of Technology, largely endowed by Dr. Walker and others; the Worcester Free Institute, endowed by Messrs. Boynton and Washburne; the Lawrence Scientific School of Harvard University, and the Street School of Fine Arts of Yale College; the Chandler Scientific School and the Thayer Engineering School of Dartmouth College, are among the most conspicuous. One of the most remarkable in its practical efficiency for the free education of the working classes in mathematical and technical science is the Cooper Union of New York. This magnificent foundation, the gift of a man of the people, whose days were spent in hard and severe labor from youth to old age, provides for the free instruction of large classes in all departments of practical mathematics, in the various branches of mechanics, in chemical technology, the principles of natural philosophy and physics, in drawing and designing, in engraving, in painting and architecture. More than two

* For details, see Barnard's *Scientific Schools*, Vol. II.

thousand students, of both sexes, are constantly attending its classes and lectures; and great numbers are necessarily turned away for want of room for their instruction. The Rensselaer Institute at Troy, N. Y., the Polytechnic College of Philadelphia, Cornell University, the Purdue College in Lafayette, Indiana, the Illinois Industrial University at Urbana, Ill., and the Scientific Department of Washington College, St. Louis, as well as some of the younger of the national endowed colleges, are giving courses of scientific and technical instruction which will prove of great service. As yet, however, very few of our scientific schools are prepared to give the best practical teaching. Ten or twenty years hence, with still more liberal or more available endowments, with museums and cabinets replete with the material for illustrative instructions, and above all with thoroughly competent instructors in the highest departments of scientific research, men who have dedicated their lives to science without the apprehension of an old age of poverty, we may expect results unsurpassed in the best scientific schools of Europe.

Civil Engineering is taught in quite a number of our scientific schools, and is becoming a very important department of higher education; Military Engineering is taught, of course, in the Military Academy at West Point, and Civil Engineering also with great thoroughness, many of our best civil engineers having been graduates of this academy, and of the State military institutes of the south and west. Mining Engineering and Metallurgy are taught in the Columbia College School of Mines, the Polytechnic College of Philadelphia, Lehigh University, South Bethlehem, Pa., and, we believe, in one of the St. Louis scientific schools. Philology is only made a distinct branch of instruction at Yale College, New Haven; at Cambridge, and at Lafayette University, Easton, Pa. Architecture is not generally taught in the scientific schools, the Massachusetts Institute of Technology being, perhaps, the only exception, though a department of it, Landscape Gardening, is beginning to receive attention in some of them; but the Institute of American Architects, in New York, and other similar bodies elsewhere, have established schools for instruction in this branch. Drawing, Painting and Sculpture are taught in the School of Fine Arts at New Haven,

in the schools of the American Academy of Design, and the Cooper Union at New York, the Brooklyn Academy of Design, and in kindred institutions in Boston, Philadelphia, Baltimore, Cincinnati, St. Louis and Chicago. Music in its higher developments is taught in the Peabody Institute at Baltimore, and in the Conservatories of Music found in most of our large cities, which depend mainly on the reputation of some eminent private teachers.

Some departments of Natural History are taught successfully at Cambridge in connection with the magnificent Museum of Comparative Zoölogy, collected by the indefatigable labors of Prof. Agassiz, but for the most part the prosecution of these studies is most profitably conducted in connection with the institutes and academies of natural science, of which we may mention the Boston Natural History Society, the Essex Institute of Natural History at Salem, the State Natural History Rooms at Albany, the Metropolitan Museum so auspiciously begun in New York, the Lyceum of Natural History in the same city, the American Academy of Natural Sciences in Philadelphia, and for this and technology the Franklin Institute in the same city, the Smithsonian collections at Washington, and lesser but considerable collections at Williams College and Amherst College, Mass., Cornell and Rochester Universities, New York, in Cincinnati, Chicago, St. Louis, and elsewhere.

VII. ORPHAN ASYLUMS AND SCHOOLS.

In all the ages since the Christian Era there has been manifested a tenderness toward the orphan, and foundations for the care and education of children bereft of one, or both parents have been established throughout Christendom in great numbers. The Roman Catholic Church, both in Europe and the United States has been particularly regardful of these children, and has established its asylums wherever there was a sufficient number of orphans who could be gathered into them. The Moravians, Lutherans, and Reformed Churches on the Continent, and Churchmen and Dissenters in England vied with each other in promoting the same good work. One of the largest Orphan Houses in Europe to-day is that of George Müller, one of the Plymouth Brethren, at Ashley Downs near Bristol. It is of great extent, supported wholly by voluntary charity, no contribu-

tions being ever directly solicited, and furnishes care, food, lodging, clothing, and education annually to nearly 3,000 orphans.

In the United States, Orphan Asylums were established by the Moravians in Pennsylvania and Georgia early in the eighteenth century. In 1740, the celebrated preacher George Whitfield laid the foundation of his Orphan House at Bethesda, ten miles from Savannah, Ga. Several other Orphan Asylums were established in New England, Pennsylvania, and Maryland before 1800, but the whole number in existence in the United States at that time did not exceed six or seven. It was the practice to a very great extent, among the wealthy families, to adopt and bring up orphan children, and this practice obviated in ordinary times and with the sparse population, the necessity of asylums. The first Orphan Asylum in New York City was organized in 1806. It was at first attempted to place the children in families, as is still done in some of the institutions for orphans in the German States, but the number of orphans rendered this difficult, and they rented and subsequently erected an asylum in Bank-street, whence they removed in 1840 to their present spacious edifice on the banks of the Hudson, between Seventy-third and Seventy-fourth streets. The Lake and Watts Orphan Asylum, endowed largely by the gentlemen whose names it bears, is a large and admirably managed institution. There are now thirteen orphan asylums in New York city, aside from the Randall's Island Nursery, where 1,700 or 1,800 children—orphans, half-orphans, or children of intemperate or criminal parents, are cared for; aside from 8,000 children, the Home for the Friendless, the Five Points House of Industry, Children's Aid Society, and other preventive institutions, a large proportion of whose inmates are orphans. There are two asylums for colored children, and one specifically for soldiers' orphans. In Brooklyn there are five asylums, all well sustained. In all of these institutions there are schools under the supervision of the city schools' authority, which receive their share of the public school money.

Philadelphia is renowned for her munificent foundations for the care and instruction of orphans. The Girard College, whose buildings and lands cost nearly two millions of dollars, and which has an endowment of almost a million and a half, received from

its wealthy founder, has about five hundred orphans constantly under instruction. It was opened in January, 1848. Its course of instruction extends over seven years. The amount of annual expenditure is about \$80,000. Several other orphan asylums and schools in Philadelphia are largely endowed; the Burd Orphan Asylum, founded in 1859, for orphans between four and eight years of age, has an endowment of about half a million. The Lincoln Home for Orphans in Philadelphia is believed to have been the first endowed institution for soldiers' orphans in the country. There are now thirty orphan asylums for these children specifically in the State. Boston has a number of orphan asylums and schools, generally admirably arranged. All our large cities have from two to six, and there are few towns of 10,000 inhabitants in the country which have not at least one, generally in connection with some religious organization. It has proved impossible hitherto to obtain any full or accurate statistics of them. Not less than 75,000 children receive both support and education in them, and though objections may be made to them on the ground of their formality and want of the family element, they relieve a vast amount of destitution, and impart elementary instruction to a large class of children who would otherwise perish, or grow up in ignorance to vice and crime.

VII. SCHOOLS AND COLLEGES FOR INDIANS.

From the first settlement of the colonies which now constitute the United States, there has been on the part of benevolent christian men a desire to educate the Aborigines, or at least such of them as could be induced to devote their attention to study. Like all savages, the Indian is naturally intolerant of confinement and restraint, and soon wearies of unremitting application to either study or mechanical employment. There have been exceptions to this rule, but they are so few as to prove its general truth. But the efforts of good men were unceasing to teach them the elements of learning and the rudiments of those arts which accompany civilization. While the Indian continued a nomad it was impossible to make any permanent impression on him. Civilization requires as its basis a fixed home. Hence, though Eliot and the Mayhews, the Jesuit Fathers in Canada, at Detriot, Kaskaskia, St. Louis, Natchez, and other points, and later Count

Zinzendorf and the Moravians, took great pains to acquire the Indian languages, and to teach them the rudiments of science and religion, they were only successful when they could gather the wandering tribes into permanent settlements,—missions, the Jesuit Fathers called them,—and then erecting the requisite churches and school-houses, accustomed them to a fixed home. In New Mexico, in Texas, in California and Oregon, the Jesuit Missionaries planted many of these missions, some of which are still in existence. The education imparted, except in the arts of civilized life, was not extensive. A few were taught to read and write, most of them learned to repeat the prayers of the church, and occasionally one of their number more ambitious and intelligent than the rest, would receive sufficient education to become the curé of a pueblo, or Indian village. In the English colonies the earliest effort for the instruction of the Indians was made in Virginia in 1618. For this purpose an appeal was made to England by the Virginia Company, and the Queen (Elizabeth), and many of the nobility and clergy contributed to the fund. At Cambridge, Mass., a school for the instruction of Indian youth was founded before Harvard College, and was in some sense the germ of that first of American Colleges. In Connecticut, there were schools for Indian children and youth as early as 1648 to 1660, at several points, as at Farmington, Podunk, Hartford and Branford, and some of these schools were maintained for more than a hundred years. In 1725 there was a school for Mohegans at Norwich, and the education of Samson Occum, an Indian, and afterward a preacher, in the family of Rev. Eleazar Wheelock at Lebanon, Conn., in 1743–1750, led to the founding of Moor's Indian Charity School in 1754, which sixteen years later was practically merged in Dartmouth College.*

About the beginning of this century systematic efforts were commenced, mostly by the general government, for the instruction of the Indian tribes within what were then the boundaries of the States. The *Iroquois*, or Six Nations, who had established themselves on reservations in the State of New York, the fragments of the Orono, Pequot, and Mohegan tribes who remained in Maine and Connecticut, and the considerable tribes of Cherokees, Creeks and Choctaws, who inhabited the northern portions of

Georgia, Alabama and Mississippi, and the Seminoles of Florida, all received missionaries and teachers, and made fair progress in learning and civilization. George Guest, a Cherokee, invented an alphabet, and reduced the language of his tribe to writing. But the rapid influx of white settlers into the Gulf States, and their jealousy of these peaceful Indian tribes led to peremptory demands for their expatriation to lands beyond the Mississippi. This removal seemed unjust at the time, and was carried out with unnecessary harshness and hardships, but in the end it proved of great advantage to the tribes which were removed, and they have formed the nucleus of an Indian territorial settlement in which the larger portion of the nomadic tribes of the western plains have found or will find a home and a permanent settlement. The Cherokees, Creeks, and Choctaws have attained to a very respectable civilization; they have numerous good schools, some of them of the secondary grade, and have entirely abandoned their nomadic habits. There are now schools, sustained in part by the government and in part by the different religious denominations, in all the tribes which occupy distinct reservations, even though these tribes have not fixed settlements. There were in 1871, as nearly as could be ascertained, 294 schools among the Indians, with about 300 teachers, and about 8,000 scholars, the total Indian population being estimated at 383,130.*

VIII. SCHOOLS FOR THE AFRICANS AND FREEDMEN.†

Very early in the history of the colonies which afterwards became slave states, there was evident a determination to withhold both from the slaves and the free people of color all facilities for education; and though for a time the instruction of house servants, who were often allied by blood to their masters, was tolerated and sometimes encouraged by influential people, yet as early as the beginning of this century, in most of the slave states, it was forbidden under penalty of fine and imprisonment to teach a slave to read or write. This prohibition was in some, perhaps in many cases, evaded; the children of a slaveholder often teaching

* For a more particular account of the attempts to establish schools for the Indians, see Barnard's contributions to the *History of Education in the United States*. STEIGER, 1873.

† A special Report on Schools for Colored Children and the educational status of the colored population in the different States, will be found in Barnard's *Special Report on the District of Columbia* which constitutes Vol. XIX of the *American Journal of Education*.

* See Barnard's *History of Education in Connecticut*.

a favorite slave what they themselves had been taught, but the law remained on the statute books, and was enforced whenever there was any excitement in regard to the slaves. As the free colored people were supposed to be most forward in teaching the slaves, the same prohibition was in many of the States extended to them, and in others the terms of a public opinion which regarded, or professed to regard, the free colored people as nuisances, was invoked to prevent their instruction also. This was generally effected, except in three or four States. In the District of Columbia there have been schools for free negroes in existence constantly from 1807 till the present time, and most of the time two, three, or more at the same time. The first was founded by the efforts of George Bell, aided by Nicholas Franklin and Moses Liverpool. These three men had been slaves but had attained their freedom, but neither of the three could read or write. Yet they built a school-house, and for some years sustained a school. In 1809, or thereabouts two others were started, one by a colored woman, Mrs. Anne Maria Hall, the other by an Englishman, Mr. Henry Potter. In 1818, the free colored people formed an association under the name of "Resolute Beneficial Society," and established a very good school which was sustained for several years. The best of these early schools was one taught by Rev. John F. Cook, a colored Presbyterian minister, self-educated, but a man of rare ability and talent, who conducted an excellent school—"The Union Seminary"—for about twenty years, from 1834 till 1855, and it was maintained by his sons, with some intermissions, till 1867. There were also two or three schools maintained under the direction of Father Vanlomen and other Catholic priests, taught by colored women of remarkable talent. The Wesleyans had also a seminary from 1833 to 1865. But the most noteworthy of these schools was that founded and conducted from 1851 to 1866 by Miss Myrtilla Miner, a lady of Brookfield, N. Y. This was a seminary of the higher class for colored girls. We have not space to go into the history of this school and her connection with it, but it is sufficient to say that she deserves as much honor, and perhaps even higher consideration than Mary Lyon, the founder of Holyoke Female Seminary. Her devotion to her work was as great, her sac-

rifices were greater, and she passed through a fiery trial of persecution, while her life was one of constant and intense suffering. At the time of the emancipation of the slaves there must have been in Washington and Georgetown some ten or fifteen of these colored schools. In Delaware, the Friends had had in Wilmington two good schools for colored children since 1840. In Maryland there was a Catholic seminary for colored girls, established in 1831, in connection with the Oblate Sisters of Providence Convent. The Wells school, endowed by a man of color, established in 1835, and some others. In Kentucky, the Berea College, founded in 1858 by Rev. John G. Fee, for the higher education of white and colored youth, was the only institution of its grade in the slave States for colored persons previous to the war.

In the Northern States there were schools for colored children exclusively in many of the large cities. One of these in New York was established in 1704. In 1788 or 1789, the Manumission Society established colored schools which were continued till 1834, when they were merged in those of the Public School Society. In Boston, a colored school was established in 1798, and a public school for colored children in 1800. In Cincinnati they were established as early as 1820. A school of higher grade established there in 1835 evoked a storm of persecution, but was maintained steadily until the public provision for the higher education of colored youth was sufficient to render its further continuance unnecessary.

In Philadelphia the efforts for the education of the colored race, of Anthony Benezet in 1750, and subsequently of the Friends in 1770, and of the Pennsylvania Abolition Society in 1794, aided and supplemented by other benevolent organizations at a later period, provided for the people of color in that city exceptional advantages of education. In the country the few colored children generally attended the same public schools with the white children, though they were in most cases jealously excluded from the private schools. In the deaf mute, blind and orphan asylums they were generally admitted on equal terms with white children. But up to 1850, and in some of the Northern States still later, there was so strong a prejudice against giving to the colored people any opportunities for

higher education that no school for that purpose was tolerated. In 1833, Miss Prudence Crandall, a member of the Society of Friends and a teacher of high reputation, received a young colored girl into her boarding and day-school at Canterbury, Conn., that she might qualify herself to become a teacher to her own race. The girl was not in any way objectionable; she was of pleasing appearance and manners, and of most exemplary conduct, a member of the Congregationalist church in Canterbury. Objection was made by the parents of some of the white children attending this school, and Miss Crandall, firm in her principles, determined to make it a test question, and, therefore, gave notice of the opening of a school for colored girls. This was soon largely attended, but the people of that and adjacent towns were greatly excited in consequence, and an influential citizen, afterward a member of Congress, and Judge of the United State District Court, procured the passage of a law by the legislature in 1833 which prohibited such a school, under penalty of heavy fine or imprisonment. Under this law Miss Crandall was arrested, committed to the Windham County jail, and subsequently tried; the first time the jury disagreed; the second, on Judge Daggett's charge, she was convicted, but an appeal being taken to the Supreme Court of Errors the action was quashed. Her school was, however, broken up by the constant assaults made on the teacher, scholars, and the school building.

In 1850, Avery College, founded by Rev. Charles Avery, was opened at Alleghany City, Penn., as a collegiate and academical school for persons of color of both sexes. It has about 75 students, is well endowed, and has an efficient faculty. Lincoln University at Oxford, Chester County, Penn., originally called Ashmun Institute, was founded in 1854 by the Presbytery of Newcastle, Pa., for the scientific, classical and theological education of young men of color. It was not opened till Dec. 31, 1856, and had in 1871, 158 students. It is moderately well endowed. Wilberforce University near Xenia, Ohio, founded in 1856 as a collegiate institution for young men of color by the Cincinnati Conference of the Methodist Episcopal Church, was by that conference transferred to the African Methodist Episcopal Church, and is now sustained by the people of color, one of

their bishops, Rev. Dr. D. A. Payne, being President and Professor of Theology. It had in 1871, 176 students of both sexes, and 7 instructors. These three institutions, and Berea College, Ky., were all in existence previous to the war, and their students were wholly or mainly persons of color. Several other colleges, however, admitted colored students to their classes regularly, and still others occasionally, Oberlin has, since 1836, always had colored students.

The escape of many who had previously been slaves from their masters in the first year of the war, and the Proclamation of Emancipation in January, 1863, soon demonstrated the necessity of furnishing educational advantages to these new citizens. The Freedmen, as the emancipated slaves were now called, were clamorous for elementary education. They flocked to the schools which the various philanthropic and religious societies established for their instruction, in great numbers, and though among the adults, whose minds had been hitherto wholly untrained, progress was very slow, yet by dint of the most undaunted perseverance, great numbers learned to read, and the colored children, in most cases, proved apt scholars. Great hostility was manifested toward these schools in the late slave States by a class of the white population, who were for the most part themselves illiterate, and jealous of the improvement of the blacks; and many school-houses were burned, and some teachers as well as a considerable number of the pupils were beaten, wounded or killed. But this opposition eventually died away, and now the education of the colored children goes on without let or hindrance. The amount expended by the various benevolent societies in the maintenance of these schools can only be stated approximately. In the ten years ending October, 1871, the American Missionary Association reported an expenditure for this purpose of \$1,563,756.99. The Freedmen's Aid Society of Cincinnati, before it was merged in the American Missionary Association, \$134,340.53, beside large amounts of clothing; the General Assembly of the Presbyterian Church, for five years ending May 1, 1872, \$220,704; the American Baptist Free Mission Society, from 1862 to 1870, when its organization ceased, about \$165,000; the American Baptist Home Mission Society, in all about \$260,000; the

Unitarian Association, directly and through the Zion Methodist Church, over \$100,000; the Methodist Episcopal Church, about \$110,000; the Friends, directly and indirectly, over \$150,000 (including a considerable amount of supplies and clothing); the Protestant Episcopal Church, not far from \$80,000. The Freedmen's Department of the Western Sanitary Commission also expended large sums in aid of these schools in the Mississippi Valley. The Freedmen's Bureau, from May 20, 1865 to October, 1871, expended in cash on these schools \$4,711,235.04, and in other things than cash \$1,551,276.22. The Catholics have also expended very considerable sums for the establishment of schools for freedmen, and have organized a system of schools for colored children; and there have been many private enterprises sustained by individual contributions, which are not reported. Taking into the account all these sums, together with what had been done by the Freedmen's Bureau, the expenditure for the education of freedmen (including a small amount for refugees and poor whites) has exceeded nine millions. This is aside from the endowment which has been given generally by bequest to several schools of higher education for colored youth—such as the Howard University at Washington, Lincoln University at Oxford, Va., Leland and Straight Universities at New Orleans, Alcorn University at Jackson, Miss., Fisk University, Nashville, Tenn., the Hampton Normal and Agricultural Institute at Hampton Roads, Va., and Atlanta University, Atlanta, Georgia. There are in all over twenty of these schools of higher education for young men of color; some of them aiming to give substantially the ordinary college course, others only a limited English and theological course to train those who are expecting to preach to their own race either here or in Africa. The Howard University at Washington has a theological, medical, and law school connected with it. It is but slenderly endowed, \$100,000 only being raised for endowment purposes, though it receives in addition to tuition fees considerable sums in annual subscriptions.

The munificent fund for the promotion of education in the South presented by the late George Peabody, the noblest gift ever made by one man to popular education, properly comes under consideration here, as in some of the States grants are made from

it for colored schools. Mr. Peabody, who must rank as the greatest benefactor to education in ancient or modern times, and whose large gifts to other objects are stated more at length elsewhere in this volume, visited the United States in 1866, just after the close of the war, and deeply impressed with the condition of the Southern States and the great need of greater facilities for elementary and secondary education, then resolved to devote a portion of his large fortune for this purpose. Having matured his plans, he placed in the hands of trustees bonds and securities of the value of \$2,000,000, the interest and a portion of the principal of which, if necessary, was to be used for the promotion of education in the South without regard to race or color. Rev. Barnas Sears, D.D., LL.D., formerly Secretary of the Massachusetts Board of Education, and at this time President of Brown University, was selected by the trustees, with Mr. Peabody's approval, to apply this large sum, and has done so with great wisdom and fairness. In 1869, Mr. Peabody again visited the country, and was so much gratified at the good accomplished by his gift, that he added \$1,400,000 more to it. The revenue from this fund, somewhat more than \$200,000 per annum, is divided among the schools of the Southern States in such a way as to encourage them to greater exertions, and to confer a lasting benefit on the communities upon which it is bestowed.

IX. CHURCH AND DENOMINATIONAL SCHOOLS.

In discussing the character and progress of schools of secondary instruction and colleges, we have not given any special account of those institutions which come under the head of Church and Religious Schools, partly because it is a matter of difficulty to separate them from the others, and partly because the greater part of those claiming these specific titles are of comparatively recent origin. In New England, in the early history of the Colonies and States, all the schools were religious. The district or elementary schools had the Bible or Testament for their text-book, almost their only text-book. They read in it, parsed from it, often had their spelling lessons in it, and though they could not prosecute their arithmetical studies from it very well, yet occasionally a knotty problem in figures was drawn from it. The Lord's Prayer, the

Creed, and the Assembly of Divines' Shorter Catechism were taught to the children from the New England primer, and many a hard-headed theologian of the former class acquired his theological training almost wholly in the district school. The Grammar schools were equally religious in their purpose and their teachings, and the colleges all had for their ultimate object and aim the sentiment emblazoned on the first seal of Harvard College, *Pro Christo et Ecclesiæ*—"For Christ and the Church." This was equally true also of Kings (now Columbia) College, New York, and of the two New Jersey colleges at Princeton and New Brunswick. Farther South the collegiate instruction had more of the secular and less of the theological character, but many of the schools were established by particular churches, and taught their doctrines with the studies of a more general character. This was true of the Catholic Conventual and other schools of New York, Pennsylvania and Maryland, the Moravian schools of Pennsylvania and North Carolina, and the schools of the Friends or Quakers. As colleges were organized in the newer States they very generally (except in the case of State institutions and sometimes even then) were under the patronage of a particular denomination, and their faculty belonged to that denomination. Of the 375 nominal colleges in the United States there are not more than thirty which are not directly or indirectly denominational.

Among the schools of secondary instruction nearly all the Female Seminaries, and a large majority of academies and other incorporated schools in which higher studies are pursued, are avowedly denominational in their boards of government and instruction.

X. PHILANTHROPIC SCHOOLS.

(1.) *Schools for Deaf Mutes.*

The first efforts for the instruction of Deaf Mutes in England were made between 1742 and 1760. J. R. Pereira, a Spanish Jew, but long resident in France, and a man of remarkable genius, instructed a considerable number of pupils, in 1743-1760, by what is now known as the method of articulation, teaching them to pronounce words by imitating the motion of the lips as the words were uttered. He communicated to them also instruction in regard to the meaning of these words and their colloca-

tion, and was so successful that his pupils conversed freely, and even had copied from their teacher the Spanish accent of French words. His system was unfortunately kept secret, and in the Revolution in France all knowledge of his method was lost. Samuel Heinicke, a German teacher, instructed the deaf and dumb, from 1754 to 1780, also by the method of articulation. There were others before and after these men who had attempted the instruction of deaf-mutes by this plan, but none of them very successfully. In 1755, the Abbé de l'Épée, a French philanthropist, attempted to teach deaf mutes by the natural language of signs, and proceeding from the known to the unknown, to indicate to them abstract ideas by the same method. He also invented a sign alphabet, by means of which they were taught the alphabet and enabled to spell out the words they wished to utter, to those who did not understand the language of signs. His processes, improved greatly by the Abbé Sicard, one of his teachers and his successor, and by Bebian, a pupil of Sicard, are those most generally practiced in the instruction of deaf mutes throughout Christendom. Some of the English schools, and a few of the German however, adhere to the system of articulation which was introduced in England in 1760 by Thomas Braidwood, who may have been a pupil of Heinicke. Braidwood kept his processes a profound secret, suffering none but his immediate family and relatives to know them for 60 years. He died in 1806, and his widow and her grandsons, and other relatives maintained the school and the secret many years. One of the grandsons came to the United States in 1811, under the invitation of a former pupil from Virginia, to establish a school for deaf mutes in that State, but he did not succeed.

The first successful attempt to instruct deaf mutes in the United States was made at Hartford, Conn., in April, 1817. Its history was as follows: In 1814, Rev. Thomas H. Gallaudet, a young clergyman of Hartford, was led by his interest in Alice Cogswell, the little daughter of Dr. Mason F. Cogswell, who had lost her hearing in infancy, to investigate the number and condition of the deaf mutes in the State, and determined to devote his life to the amelioration of their condition. Dr. Cogswell, Ward Woodbridge, David Wadsworth, and other gentlemen in Hartford, furnished the

means for a visit to England to learn the best methods of teaching these unfortunates. He sailed for Liverpool, May 25, 1815, and on arriving in England found that the Braidwood family, who held the monopoly of deaf mute instruction in Great Britain, would not give him any training in their processes except on condition that he should pay fifteen hundred dollars, remain from one to three years without salary, as an assistant in their schools, and take a member of the family as a partner in the institution to be established in America. Mr. Gallaudet promptly rejected these terms, and after repeated unsuccessful efforts to obtain more favorable propositions, was about to return to the United States when he met in London the Abbé Sicard, by whom he was invited most cordially to visit his institution in Paris. Accepting the invitation, the good Abbé at once made him acquainted with all his processes of instruction, and after three months of close study, in which the Abbé gave him every possible assistance, he returned to America, accompanied by M. Laurent Clerc, an educated deaf mute, and one of the Abbé Sicard's most successful teachers. A school for deaf mutes was chartered by the Connecticut Legislature in May, 1816, and Messrs. Gallaudet and Clerc traveled extensively to explain the system of instruction and to raise the necessary funds for its establishment. It was opened in rented buildings, at Hartford, in April, 1817, and soon after received from Congress a grant of a township of land in Alabama, when its corporate name was changed to "*The American Asylum for the Deaf and Dumb.*" By careful management this grant produced a fund of over \$300,000, which enabled the directors to furnish board and tuition at a very moderate price to pupils from any part of the country. Until quite recently the New England States made appropriations for the support of their deaf mutes whose friends were unable to support them exclusively in this institution.

The American Asylum was prosperous from the first. Mr. Gallaudet, its founder, was a man of rare genius and originality, and possessed great tact and skill in imparting instruction to a class of pupils whom it had been before considered impossible to educate. He was ably seconded by M. Clerc, who retained his connection with the institution for almost fifty years. The

teachers whom Mr. Gallaudet drew around him were all men of remarkable ability; and among them such men as William C. Woodbridge, Lewis Weld, Harvey P. Peet, Isaac Orr, William W. Turner, Luzern Rae, Samuel Porter, John A. Jacobs, O. W. Morris, Collins Stone, and others. His two sons, Thomas and Edward M. Gallaudet, have devoted themselves to the development of this class of institutions, and the moral and intellectual culture of deaf mutes.

As this asylum has been directly the parent of all, or nearly all, the institutions for deaf mutes in the United States, and its methods have been followed with, at most, very slight modifications, by all the others, it is perhaps necessary that we should show in what particulars the American methods of deaf mute instruction differ from the European. It was a great blessing to the deaf mutes that the work of establishing a system of instruction for them fell to the lot of a man of such genius and ability as Mr. Gallaudet. Had he been merely a routinist, following implicitly the system of De l'Épée, Sicard, and Bebian, their intellectual culture to-day would be vastly below what it now is.

The system of Pereira, Heinicke, and the Braidwoods had for its basis the dogma that ideas could only be expressed or communicated by means of spoken or written language; and hence the deaf mute was taught, with great difficulty and pains, to articulate words whose meanings he did not understand, and then, as step by step he connected ideas with the simplest of them, these were made the means of conveying to him the meaning of those more abstract and difficult. In this way three or four years were consumed before the pupil was prepared to acquire the facts of science or the knowledge of his moral obligations.

The fundamental principle of the system of De l'Épée, as modified by Sicard and Bebian, was that "words have no natural or necessary connection with the ideas of which they are the signs, and that in the natural language of signs or pantomime, improved and enlarged as it can be, there is a complete substitute for them." No special attempt was made at teaching articulation, but words were taught by means of signs, and these once acquired, were made the medium of further instruction by ordinary text-books. In order to teach words more readily, M. Sicard introduced what he denominated *methodical signs*, that is, a

peculiar gesture for each word, which the pupil was taught. It is obvious that if the vocabulary of the deaf mute was to be as large as that of ordinary intelligent speaking persons, the number of these arbitrary signs (for it is to be understood that these differed almost as much from the ordinary signs as the latter from words, the natural signs representing ideas, and the methodical signs single words) must be very great, some thousands at least, and to retain them in memory was a very fatiguing task for both pupil and teacher.

The American system of deaf mute instruction differs materially from both these, and the difference originating in its fundamental principles with Mr. Gallaudet and the teachers trained up under him, has been extended and amplified as a result of the experience and observations of the very eminent teachers who have been and still are engaged in the work of deaf mute instruction.

In establishing the American Asylum, Mr. Gallaudet combined the principle of Heinicke, of the connection of ideas with words, with that of De l'Epée, that the natural language of signs must be elevated to as high a degree of excellence as possible in order to serve as the medium for giving the ideas clearly and explaining them accurately; but he added to these another which had never before been applied to deaf mute instruction, viz., that the process of learning words might be greatly facilitated by leading the pupils to reflect on their own sensations, ideas, and mental processes. With the earliest lessons he imparted in the names of sensible objects, he was accustomed to endeavor to open communication with them, by means of the sign-language, in regard to the feelings and emotions excited by these objects, and, if possible, to connect them with something in the pupil's past experience. From this, the deaf mute was naturally led on to think of the feelings and emotions of others, thence, by a natural transition, to the idea of God as a Creator and benefactor, and finally to a knowledge of his law, and the final destiny of man. The result of this has been that pupils in this country (for this plan has been generally adopted in our American institutions) are made acquainted with the simple truths of religion and morality in one year, a period in which, in the European institutions, they have scarce-

ly advanced beyond the knowledge of sounds and the names of sensible objects, qualities, and actions, or the most common phrases. Apart from the high religious importance of this process, it brings moral motives to bear earlier, and renders the government of the pupils easier, while it aids them in the formation of correct habits. The conducting of the daily and weekly devotional exercises in the sign-language was another peculiarity introduced by Mr. Gallaudet.

Methodical signs were used to a considerable extent by Mr. Gallaudet and the earlier instructors of American institutions, but were not regarded as so indispensable by them as by the French teachers. Of late years they are less employed than formerly, and are made to indicate phrases rather than words, while the manual alphabet is regarded as of more value in teaching than it was thirty years ago. An advance has also been made, of great importance, by the introduction, by Mr. I. Lewis Peet, of the New York Institution, of manual and written symbols for those ultimate constituents of the sentence which form so considerable a portion of spoken and written language. By this means written language is taught with much greater facility than formerly. The idioms and forms of expression induced by the use of the natural language of signs, differ so much from those of our written language, which is to a greater extent than most people are aware, artificial in its construction, that it has been difficult for deaf mutes, in attempting to obtain a higher education to attain to that complete mastery of English, which is acquired with comparative readiness, by those who have not the idioms of a native language to unlearn; for to the deaf mute this natural language is in some sort their mother tongue.

The New York Asylum was chartered in April, 1817, mainly through the active exertions of Drs. S. L. Mitchell and Samuel Akerly, De Witt Clinton, Sylvanus Miller, Peter Sharpe, and Rev. Dr. James Milnor. It was not opened till May, 1818, and the first twelve years of its history were years of struggles and difficulties, partly from the lack of competent teachers and assistants, and partly from injudicious management. In 1830 it was removed to buildings specially erected for it on the block between 49th and 50th streets, and Fourth and

Madison avenues, and Mr. (afterward Dr.) Harvey P. Peet, one of the ablest of the teachers of the American Asylum was elected Principal. Dr. Peet had much to contend with at first, but he was grandly successful, and the present asylum on Washington Heights, overlooking the Hudson, with its noble buildings and its fine park of thirty acres, with accommodations for six hundred pupils and every advantage for successful instruction, is a monument to his ability and fidelity both as a teacher and executive officer. Dr. Peet remained at the head of the institution till 1867, when he resigned, and his son, Isaac Lewis Peet, was elected his successor; but he retained his official connection with the institution until his death, January 1, 1873. The number of pupils in 1871 had reached 580, under 30 teachers.

The Pennsylvania institution was founded at Philadelphia in 1820, and in 1822 Mr. Lewis Weld, another of the Hartford teachers, became its principal. In 1830, on Mr. Gallaudet's resignation as principal of the American Asylum, Mr. Weld was recalled to Hartford as his successor, and was succeeded at Philadelphia by Mr. Abraham B. Hilton, who proved a highly successful teacher for 40 years, until his death in 1870. The institution has been prosperous from the start.

The Kentucky institution was founded in 1823, and located at Danville. It received a grant of public land from Congress, but no considerable fund was realized out of it. Its first principal, who was at its head for forty-five years, was Mr. John A. Jacobs, who was previously one of the teachers of the American Asylum. At his death, in 1868, his son succeeded him.

The Ohio institution, founded in 1827, has been very prosperous. Its first and third principal, Messrs. Hubbell and Stone, were from the American Asylum, and its second, Mr. Cary, from the New York Institute, who was succeeded in 1855 by Mr. Collins Stone, at the time a teacher in the institution at Hartford, to which he returned to become principal in 1868, and where he died in 1871.

The Virginia institution, at Staunton, Va., founded in 1839, and long officered from the Hartford institution, was the first in this country to combine the instruction of the deaf mutes and the blind under one board of officers and teachers. There are now

nine asylums in the United States where these two classes are educated together.

There are in the United States thirty-eight distinct schools or institutes for Deaf Mutes, five or six of them, however, are small, and three day schools in Chicago, Boston, and Pittsburgh; two or three teach by the system of articulation only, while most of the others give instruction in articulation to classes of semi-mutes, *i. e.*, those who have learned to speak but have become deaf in childhood. For those who were deaf and dumb from birth, the ablest teachers believe the time spent in teaching articulation can be spent in acquiring ideas and the power of expressing them. What will be the ultimate result of the general use of the Bell system of Visible Speech, introduced into the Clarke Institution at North Hampton, and to a limited extent in the American Asylum at Hartford, and the private school of A. Graham Bell at Boston, since 1871, can not be safely predicted. With a class of semi-mutes, it proves highly useful in facilitating articulation.

Twenty-nine of the States, and the District of Columbia, have each one or more institution for the deaf and dumb. In most of these the course of instruction occupies seven years, and those who are unable to pay their board and tuition are supported by the several States. In the American Asylum and the New York institution an advanced course occupying three years was established in 1854; and in 1864 the National Deaf Mute College was organized, as a department of the Columbia institution at Washington. It has the usual college classes, with a course of study occupying four years, closely following that of our best colleges. The success of the institution in Washington, and the establishment of the National College, is mainly due to a son (E. M. Gallaudet, LL.D.) of Thomas H. Gallaudet.

By the census of 1870, the number of deaf and dumb persons in the United States returned that date (July, 1870,) is 16,205, of whom 14,869 were native, and 1,336 of foreign birth. This is probably considerably below the actual number, which is probably not much below 20,000, or one to every 2,000 inhabitants. Of these 4,000, or a fraction more, were under instruction at that time, probably nearly all who were of school age—for the per centage of illiterate deaf mutes is very small.

ALPHABET OF THE DEAF AND DUMB.



In 1865, Mr. A. Melville Bell, Professor of Vocal Physiology in England, announced in a pamphlet entitled "*Visible Speech: A New Fact Demonstrated*," that he had discovered the true organic relations of speech sounds, and had invented a universal alphabet based upon his discovery. His new method of writing he termed "Visible Speech," from a peculiarity in the formation of the letters. In this method, every letter, and every part of a letter, has a definite physiological meaning. The elementary lines and curves are pictorial of parts of the mouth; and these are capable of being grouped together into a compound form, just as the various parts of the mouth are arranged in uttering sound. In this way, the inventor claimed he could represent any sound the human voice could make, so that another person should be directed how to utter it. The following diagrams will illustrate the elements of this Alphabet.

The darkened parts of the diagram (Fig. 1,) are the *Visible Speech symbols* for the organs of which they are the outlines. These symbols are written separately, and in one line, at the lower part of the diagram. They indicate respectively, as they stand, beginning at the left hand, the throat, the back of the tongue, the top of the tongue, the point of the tongue, the lower lip, and the nose.

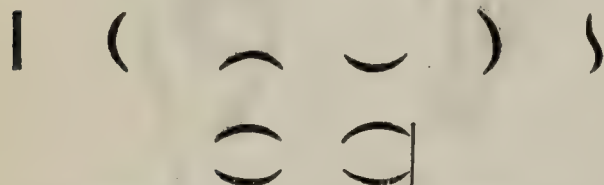
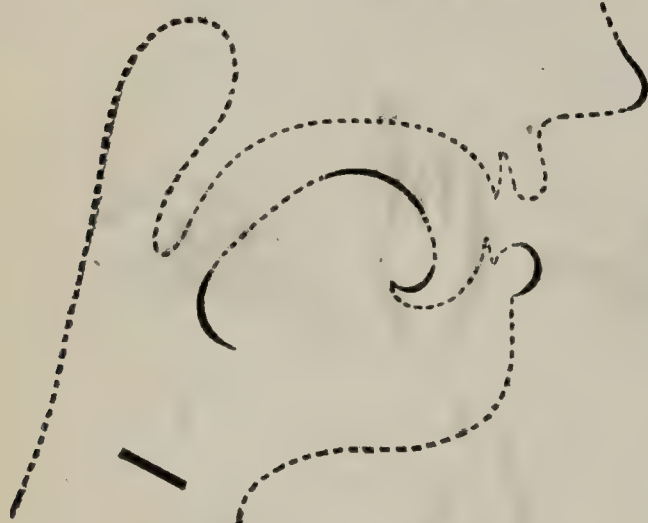
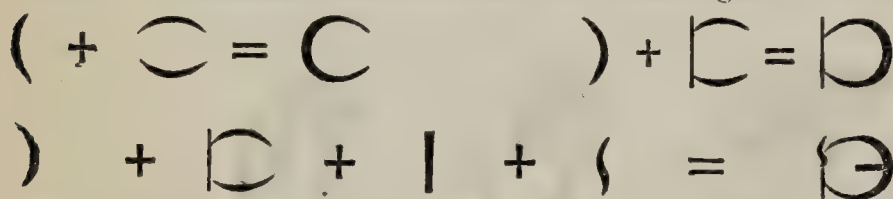


Figure 2 illustrates the combination of these signs.



The sign for the throat, (the straight line) represents a mere chink or slit in the throat, and is pictorial of the vocalizing condition of the glottis. It is therefore used to denote "voice."

The sign for the nose is, in reality, pictorial of the uvula, the pendulous extremity of the soft palate. When the soft palate is depressed, the breath passes up behind it, and escapes through the nostrils. When it is raised, the communication between nose and mouth is cut off.

Hence the application of a symbol originally pictorial of the soft palate to the nose.

Its strict scientific meaning is,—“soft palate depressed;” but it will be more popularly understood as “air passing through the nostrils.”

At the lower part of Fig. 1 are two additional symbols, like parenthesis laid horizontally. The first of these is intended to convey the idea of a *pipe*; and the second exhibits this pipe *closed at one end*. The first is used to denote a *narrow passage in the mouth*, through which the breath may pass; and the second, *complete closure of the passage*.

The first compounded symbol indicates “a narrow passage” for the breath, over (plus) the “back of the tongue.” The combination indicated by the plus sign stands after the sign of equality, being a crescent protracted to three-fourths of a circle. This is the position of the mouth in sounding *ch* (German), in the word *nach*.

The second symbol (lip *plus* closure) directs us to “close” the “lips.” This position is assumed by the mouth in uttering a word commencing with *p*,—*e. g.*, paper. The third symbol (lip *plus* closure *plus* voice *plus* nose) indicates that the “lips” are to be “closed,” and the voice passed through the “nose.”

The symbols in Figure 3, describe certain positions of the mouth which yield sounds. The reader can, it is presumed, readily analyze them from the preceding figures.

Blowing to cool.	<i>r</i> (French) théâtre.	<i>h</i> (English) hue.	<i>ch</i> (German) nach.
<i>w</i> (German) wie.	<i>r</i> (English) run.	<i>y</i> (English) you.	
<i>p</i> in pen.	<i>t</i> in tea.	<i>k</i> in key.	<i>g</i> in gay.
<i>b</i> in bay.	<i>d</i> in day.	<i>ng</i> in sung.	
<i>m</i> in some.	<i>n</i> in son.		

Key words are so variously pronounced by different speakers, as to be, in many cases, worthless as a means of identifying sounds.

They are, therefore, omitted in the present instance, except in those cases where they will be likely to assist the reader.

The fact that the Visible Speech symbols exhibit to the eye all the relations the sounds themselves do to the ear, and that the organic relations are just as clearly shown, will be obvious by a comparison of the characters for

P	B	M
T	D	N
K	G	NG.

Comparing these as thus placed, Visible Speech and its signs say that—

As P is to B, so is T to D, and K to G.
As B is to M, so is D to N, and G to NG.
As P is to T, so is B to D, and M to N.
As P is to K, so is B to G, and M to NG., &c., &c.

P, B, and M have the “lip” and “shut” signs in common; and in sounding all, the lips are shut. T, D, N, agree in shutting off the breath by means of the point of the tongue, and K, G, NG, in the closing action being performed by the back of the tongue.

Furthermore, the sounds P, T, K (represented by the same symbol turned in different directions), are made by the same organic action performed at different parts of the mouth; so with B, D, G, and M, N, NG.

(2.) *Schools and Institutions for the Instruction of the Blind.*

The instruction of the blind had never been attempted on any considerable scale, in any part of the world, before the Abbé Valentin Haüy, in 1784, commenced in Paris, France, his private school for blind pupils. Individuals who were blind had indeed educated themselves by the assistance of friends; but the great majority of those who suffered from this affliction were left to a life of dependence and depression, and often became beggars. The efforts of Haüy, and his invention of an embossed alphabet, to enable the blind to read, led to the foundation of a school for the blind in Paris, supported by the French government, in 1791, and to the organization of similar schools in England, Prussia, Austria, and Russia, about the same period. In these schools, reading and music, and some of the simpler mechanic arts, such as knitting, mat-weaving, basket-making, etc., were taught.

The first systematic efforts for the education of the blind in the United States were made in Boston in 1829. Dr. John D. Fisher, a young physician of that city, while studying his profession in Paris had visited repeatedly the Institute for the Blind, and was inspired with the determination to attempt their instruction at home. On his return to America he associated himself with a half-dozen benevolent gentlemen of Boston, among whom was William H. Prescott, the eminent historian, who was himself partially blind. These gentlemen having heard Dr. Fisher's narrative of what had been accomplished in the institution at Paris, procured from the Massachusetts Legislature in March, 1829, a charter for an institution to be called "The New England Asylum for the Blind," and at once undertook to raise money for buildings and endowment. The gift by Col. Thomas H. Perkins of his valuable mansion house and lands in Pearl street, Boston, to the asylum, on condition that \$50,000 should be raised by others, soon led to its liberal endowment, and to the change of its corporate name to "The Perkins Institution and Massachusetts Asylum for the Blind." It was not formally opened until 1831, when Dr. Samuel G. Howe, another young physician of Boston, who had been actively engaged in extending succor to the Greeks in their efforts to throw

off the Turkish yoke, and who passing through Paris on his return from the East, had devoted careful attention to the methods of the French Institute for the Blind, took charge of it, and has continued in its superintendence for more than forty years. The institution received grants from the Massachusetts and other New England Legislatures in proportion to the number of beneficiaries received. These grants now amount to about \$37,000 per annum. The genius and ability of Dr. Howe in the management of the institution, and in inspiring other men with his own enthusiasm, and his remarkable success in educating Laura Bridgeman, a blind deaf mute, has secured for the institution the continued support of the benevolent and the Legislature, for all needful modifications of the system.

In 1831, Dr. Samuel Akerly, already well-known for his efforts in behalf of the deaf and dumb, Mr. Samuel Wood, a benevolent member of the Society of Friends, and several other gentlemen of New York, became interested in the condition of blind children in the alms-house, and made application to the New York Legislature for an act of incorporation for an institution for the blind, which was granted. Securing the services of Dr. John D. Russ, another young physician whose aggressive benevolence, like that of Dr. Howe, had enlisted him in the cause of the Greeks, they commenced at first in a very humble way the instruction of the blind pauper children in the city of New York. This institution, like that of Boston, has grown to be one of the largest in the world. Dr. Russ withdrew from its superintendency after a few years, but is still its warm and efficient friend.

In Philadelphia, Robert Vaux, a wealthy and benevolent Friend, and others who were like-minded, after two or three years of exertion succeeded in 1833 in establishing an institution for the blind, which was at first under the charge of an able and intelligent Prussian, Mr. Julius Friedlander, who had been one of the teachers of the blind in Berlin under the direction of the celebrated Zeuné. Mr. Friedlander's death, in 1839, was a severe blow to the institution, and for the next ten years, under a variety of superintendents, it did not attain to a great success, but with the appointment of its present able and efficient superintendent, William Chapin, LL.D., it commenced a new career, and is now second to no institution for the

blind in the world in its successful management, and the great amount of good it is performing. It has connected with it an Industrial Home for the Blind, intended for the infirm and aged as well as for those who are capable of partially supporting themselves. It is open under certain restrictions to graduates of blind institutions—those of the Philadelphia institution having the preference. The pupils of the Philadelphia institution are very well educated in music, and its weekly concerts are largely attended by the best musical connoisseurs of the city, and have proved a considerable source of revenue.

In 1837, the Ohio institution was established at Columbus, and though passing through many changes and vicissitudes, it now takes a high rank. The department for the blind in the institution for the deaf, dumb and blind at Staunton, Va., was organized, January, 1840. Between 1842 and 1850, six more institutions for the blind were established, viz., the Kentucky Institution at Louisville in 1842, the Tennessee Institution at Nashville in 1844, the North Carolina Institution at Raleigh in 1846, the Indiana Institution at Indianapolis in 1847, the Illinois Institution at Jacksonville in 1849, and the South Carolina Institution for the Deaf, Dumb and Blind at Cedar Springs the same year. The Wisconsin Institution was founded at Janesville, in 1850. There are now twenty-seven of these institutions in the United States, having an aggregate of about 2,200 pupils.

The whole number of blind persons in the United States, according to the census of 1870, is 20,320, of whom 17,043 are natives and 3,277 of foreign birth. This includes, of course, many persons who have become blind in adult age, and who therefore were not suitable candidates for instruction in this class of institutions. Still it is believed that the proportion of blind youth who receive instruction to the whole number is not nearly so great as of the deaf mutes. Begging is so ready and profitable a resource for the blind that a very considerable proportion, especially of those of foreign birth or parentage adopt it. The table appended gives many particulars in regard to the blind institutions in this country.

The education of the blind in the European institutions is for the most part confined to the mere rudiments of knowledge except in music, which is in some of them

taught very successfully. They are generally instructed in some handicraft by which they may partially or wholly support themselves. In the United States, while the technical and musical education have not been neglected, they are generally very well taught in the studies which belong to what we are accustomed to call secondary education. The period of instruction varies in the different institutions from five to eight years. In most of the larger and older institutions it is eight years, and includes a course of mathematics and belles-lettres, but does not usually include the languages, though in two or three French is taught. There is usually much attention given to musical instruction, both vocal and instrumental, for which most of the blind possess a remarkable aptitude. Work-rooms are attached to all the institutions, in which the pupils are employed for some hours every day in the manufacture of mattresses, mats, tidies, baskets, paper-boxes, brooms, brushes, or the simpler articles of cabinet work.

The first efforts of the American instructors of the blind were devoted to the improvement of the alphabet of raised letters, used in printing for the blind, with a view to the preparation of books for them. There were considerable difficulties to be overcome in the accomplishment of this work; the letters must have salient angles; each letter must differ sufficiently from every other to be easily recognized by the touch; yet the size of the letters must be small, or the books printed for the blind would be too cumbersome and expensive. The forms of letters used in Europe did not answer these requirements satisfactorily. Haüy's type, if well embossed, could be read with tolerable facility, but it was much too large, and its size could not be reduced without impairing its legibility; Guillié's was not legible at all; Gall's varied too much from the ordinary form of letter to be desirable, and the other attempts at uniting the requisite qualities failed. Each of the three American superintendents devoted his leisure to the work. Mr. Friedlander devised an alphabet, known in England as the Allston or Sans-serif Alphabet, neat in form and easily read, but somewhat too large; Dr. Russ invented one combining the advantages of Gall's triangular alphabet with the Illyrian letter, and with characters to make it phonetic, but it was somewhat de-

fective in legibility; and Dr. Howe, after repeated trials, constructed what is now known as the Boston letter, which in size, distinctness, and legibility so far surpassed every previous effort, that it has now come into general use in Europe and America.

The great cost of printing, or rather embossing, works for the blind has rendered the supply scanty, and the number of books small. The American Bible Society has printed an edition of the Scriptures in the Boston letter, a benevolent gentleman having made a bequest to cover the cost of the plates, and from time to time grants are made to institutions for the blind. The American Tract Society has also printed a few of its smaller books in the same letter. Aside from these there are less than one hundred books printed or embossed for the blind. Among this small number are some text-books, a cyclopædia to be completed in twenty volumes, but not yet, we believe, quite finished, some volumes of poems, &c.

Owing, probably, to their high cost and great bulk, the blind after leaving the institutions seldom use any of the books in the raised letter except the Scriptures, their tenacious memory enabling them to retain most of what is read to them by others.

Writing has always been a difficult and irksome task to the blind; and various devices have been proposed to facilitate this labor, but hardly any of them have proved satisfactory. The plan adopted by the late William H. Prescott of using a frame of wires over the paper, enabled him to write in straight lines, but no corrections could be made, nor could the scribe read what he had written. The use of inks which would leave an elevated surface has been tried, but without much satisfaction; small printing machines have also been used, but are not convenient.

Within a few years past another process has been introduced, which, despite the apparent objections to it, proves far more serviceable and convenient than any other yet devised. By this invention, known as "Braille's system," from its inventor, M. Louis Braille, a French teacher of the blind, or rather by an American modification of it, they are soon enabled to read and write with great facility, and by the addition of a single character, music can be printed or copied by the blind far more readily than a seeing person can do it in the ordinary way. The plan is based upon a series of funda-

mental signs, comprising the first ten letters of the alphabet; none of these consist of less than two nor more than four dots. A second series is formed by placing one dot at the left of each fundamental sign; a third by placing two dots under each sign; a fourth by placing one dot under the right of each. These signs designate, besides the alphabet, the double vowels, peculiar compound sounds like *th*, and the marks of punctuation. By prefixing a sign consisting of three dots, the fundamental signs are used as numerals; by prefixing another the last seven represent musical characters, and by a sign peculiar to each octave the necessity of designating the key to each musical sentence is avoided. It consists of a board, in a frame like that of a double slate, the surface of which is grooved horizontally and vertically by lines one-eighth of an inch apart; on this the paper is fastened by shutting down the upper half of the frame, and the points are made with an awl or bodkin, through a piece of tin perforated with six holes, an eighth of an inch apart. The perforations are made from right to left, in order that the writing when reversed may read from left to right. Books and music are now printed for the blind on this system. Most of the larger institutions have adopted it.

Dr. John D. Russ, the first superintendent of the New York institution, has invented an "improved Braille system," which seems to possess some advantages over this, but it has not been adopted, so far as we have learned, by any of the schools for the blind.

Attempts have been made to furnish employment on a large scale to the blind and pay wages which should be sufficient for their support, or equalize their condition with that of seeing persons engaged in mechanical labor; but such efforts have always failed, and in the nature of the case must do so; for the deprivation of sight, though partially compensated by the greater activity of other senses, is too serious a defect to allow the blind an even start in the race for a livelihood with the seeing, and so long as the rate of wages are such that only an exceptionally active and enterprising mechanic, who has his eyesight, can make anything more than a livelihood, the blind, laboring under so many disadvantages, must necessarily fall behind in the race.

(3.) *Institutions for the Education and Training of Idiots and Imbeciles.*

These institutions are wholly the outgrowth of the philanthropy of the nineteenth century. No successful attempt had ever been made before the year 1838 to rouse and bring into activity the arrested mental development of the idiotic child. It is true that the benevolent and philanthropic St. Vincent de Paul, the founder of the order of Lazarists, gathered into his monastery a number of idiotic and imbecile youth, and by care and tenderness sought to improve their wretched condition, but he had no idea of their real condition or of the principles on which alone a successful treatment of their cases was possible. Itard, Pinel, Esquerol, and other names illustrious in psychological science, had all grappled with this difficult problem of the true method of reaching the idiot and raising him up to self-control, and all had failed. It was reserved for a young French physician, Dr. Edouard Seguin, a pupil of Itard, to solve this problem. He gathered a few idiotic children in Paris, and proceeding on the principle that idiocy was an arrested development, a prolonged infancy, in which the infantile grace and intelligence having passed away, the feeble muscular development and mental weakness of that earliest stage of growth alone remained, he questioned nature as to her processes of development of the infant, and of elevation and education of the physical, mental, and moral powers. He found in idiot children the infantile fondness for bright colors, and availed himself of it to teach them the distinctions of color and form; he noticed their liking for playthings, and furnished them with builders' blocks, cups and balls, and other toys, by which he could instruct them in numbers, shape, and size; he developed volition, by simple physical movements, by molding the hand to grasp objects, the lips to utter sounds, by moving the lower limbs up, down, backward, forward, and laterally, by compelling them to take a step or raise hand or foot, at a signal or word of command; by the use of dumb-bells, and an infinite variety of processes repeated almost an infinite number of times; then words were taught with the aid of pictures, and new ideas, at first concrete, and afterward those of an abstract character, were instilled into their minds as fast as they could com-

prehend them. With all these, and beyond them, the moral nature was gradually roused by the simplest instruction and the influence of a pure example. The process was slow, and the difficulties to be conquered many, but Dr. Seguin persevered and triumphed. His processes were submitted to the most careful scrutiny by a committee of the French Institute, and by numerous teachers and psychologists who had become interested in it; but all resulted in the conviction that he alone had hit upon the philosophic and only practicable mode of rousing and developing these dormant natures. He continued to teach idiotic children in Paris with great success for ten years, and published several works on the subject of their education. His "Moral Treatment, Hygiene, and Education of Idiots," published in 1846, was recognized by all psychologists as the ablest and most philosophical work on that subject. In 1848, Dr. Seguin came to the United States, and of his labors here we shall speak further on. In 1836, Dr. Louis Guggenbühl, a Swiss physician, commenced his experiments on the education and training of cretins in Switzerland; the cretin being a somewhat deformed and physically helpless creature, his mental and moral development arrested in consequence of disease, impure air and water, but really a more tractable subject than the idiot. These experiments were conducted on the Abendberg, near the Interlaken, for fifteen or twenty years, with considerable success, and a number of institutions for cretins were started; but Dr. Guggenbühl seemed to fail in comprehending the true principle of rousing these cases of arrested development, and after a time his institution was given up, and some of his cretins went back to their old life of squalor and mendicancy. In England and Scotland the fruits of Dr. Seguin's philosophical treatises and successful teaching were seen in the organization of schools and asylums for idiots at Highgate, Colchester, Baldovan, Edinburgh, and elsewhere.

In the United States, attention was first called to the subject by the eloquent letters of Mr. George Sumner to one of the Boston papers, describing his visits to the schools of Dr. Seguin and M. Vallée, in Paris. These letters were published in 1845, and the attention of Dr. S. B. Woodward, of Worcester, Dr. F. F. Backus, of Rochester, N. Y., and Dr. S. G. Howe, of the Blind Institution at Boston, were called to them.

Dr. Backus, then a State senator in the New York legislature, brought in a bill to the Senate for the establishment of an institution for the training of idiots, during the session of 1846, and Dr. Howe procured the appointment of a commission to investigate the condition of idiots in Massachusetts, the same winter. Both these movements eventually resulted in the establishment of institutions for the training of idiots.—in Massachusetts in 1848, and in New York, by reason of opposition, not until 1851. Meantime a young physician of Barre, Mass., Dr. Hervey B. Wilbur, had opened a private school for idiot children in his own house, in July, 1848, and was endeavoring to put in practice the principles of Seguin. The Massachusetts Experimental School, which in 1851 became a permanent "School for Idiotic and Feeble Minded Youth," was first organized in South Boston in October, 1848. As we have said, Dr. Seguin visited the United States in 1848, and after spending a little time at South Boston and at Barre, returned to France, but in 1851 came again to this country, which has since been his home. The New York institution, started at Albany in 1851, was organized by Dr. Wilbur, who has been for almost twenty-two years (1873) its head, while Dr. George Brown succeeded him at Barre. The presence and aid of Dr. Seguin in these schools at their beginning was of inestimable value. He imbued the superintendents and teachers with his enthusiasm and patience as well as with his principles of education, and the really remarkable success of the American schools for training idiot children, a success vastly greater than has been attained in other countries, is due, in large measure, to the admirable works and still more admirable drill of the teachers and pupils in their presence, by Dr. Seguin. Undoubtedly he found in these teachers and superintendents those who were apt to learn, and who possessed the ability to carry out successfully the principles which he had imparted; but very few have the good fortune to be instructed by so skillful a teacher. After devoting several years to the promotion of these institutions, and the still wider introduction of the physiological method of education, Dr. Seguin settled in the practice of his profession, at first in Portsmouth, Ohio, and subsequently in New York city; but that he has not lost his interest in the education of idiots is evident from his publica-

tions on that subject—"Idiocy and its Treatment by the Physiological Method" (1866); and "New Facts Concerning Idiocy" (1868). He is now engaged in applying the same principles to the education of children generally.

The "Pennsylvania Training School for Feeble Minded Children," at Media, was organized at first at Germantown, in 1853, by Mr. J. B. Richards, who was for a time a teacher in the South Boston school, and was assisted, after its establishment in the building erected by the State for its accommodation at Media, by Dr. Seguin. It is now one of the largest of this class of institutions.

The Ohio Asylum for Imbecile and Feeble Minded Youth," at Columbus, was founded in 1857, and the Kentucky Institution, at Frankfort, about the same time. The Connecticut Institution (private), at Lakeville, was opened in 1858, by Dr. Knight; and the Illinois Asylum for Idiots, at Jacksonville, in 1865. There are now in actual operation, under State organization or aid, nine institutions, and others will soon be formed.

Dr. Seguin lays down in his work on "Idiocy" a distinction which is worth observing, viz., that the imbecile, though apparently more promising, is really a more hopeless subject for treatment than the helpless and wholly undeveloped idiot. Epilepsy too, which often accompanies imbecility, and sometimes idiocy, is an almost fatal barrier to improvement. It is, then, an encouraging result that, taking, as the State institutions do take, all classes, from seventy to eighty per cent. are very greatly improved, and from twenty-five to thirty per cent. become self-supporting, and as intelligent and sound of mind as the average of working men. Several have distinguished themselves by fidelity and good conduct in very trying positions. About 3,000 have been dismissed as decidedly improved and benefited since the opening of these institutions, and more than nine hundred are now under instruction.

The census of 1870 gives the whole number of idiotic persons in the United States as 24,527, but on this subject the returns are not very reliable. The demented and fatuous are included, and probably also many who, though, to use an old Saxon word, *underwitted*, are yet far from being idiotic. On the other hand, many eccentric, feeble-minded, and perhaps really idiotic children, are omitted in consequence of the pride and sensitiveness of parents and

friends. The table appended gives many particulars of the Idiot Asylums.

(4.) *Hospitals and Asylums for the Insane.*

We shall not discuss here the influence which Education exerts in producing or increasing insanity; that it does exert some influence to that effect is universally admitted; but it will be found to be mostly in two directions; one, where the culture of the faculties is not uniform in its character, and the mind is, consequently, not well balanced, some faculties being overstrained, and others comparatively undeveloped; the other, where from too close application, or inordinate ambition for acquiring knowledge, the physical powers are neglected, and disease or infirmity of the body, induced by insufficient exercise and recreation, communicates itself to the overwrought brain and causes the worst and most hopeless form of insanity. We do not believe, however, that hard study ever killed a man or made him insane unless it was coupled with violation of the physiological laws of life and health.

But it is not these connections of insanity with intellectual culture that we have here to discuss. We are only called to notice the instances, still rare, though much more common than they were, where the prosecution of some studies, the exercises of a school, or the use of what may be called educational appliances or adjuvants, have been resorted to as means of "ministering to a mind diseased;" and, we may be pardoned if we allude incidentally to the great and beneficial influence which the wide diffusion of education, especially of scientific education, has had in the amelioration of the treatment of the insane, within the past fifty years.

The cruelty with which the insane were treated from fifty to eighty years ago may well excite our wonder and horror. The poor unfortunate, bereft of reason, was, while in that condition, an object of both terror and loathing; the notion had gained credence that the mortification of the body by whipping and beating was the readiest cure for the affliction, and blows and lashes were rained upon him till his tormentors were weary with their exertions; the poor victim was chained, exposed to the intense cold of winter and the equally intense heat of summer with but scanty and filthy raiment; their food was coarse and repulsive, and their whole condition one fitted to excite the pity of the hardest heart. The few asylums for lunatics, and they were very

few in this country, resorted to chains and handcuffs, to harsh treatment and prison fare, though they were better than the almshouses, jails, and private pens in which the great mass of the insane were confined. But under the lead of Dr. Eli Todd, in the Connecticut Retreat for the Insane, in 1823, a wiser system of treatment was inaugurated, and the blessed results of kindness and tenderness, combined with a better knowledge of the nervous system, and its connection with the abnormal manifestations of insanity, has revolutionized the condition of institutions devoted to this class of unfortunates. Great efforts have been made within a few years past to draw the thoughts away from the delusions and hallucinations connected with its disordered condition, and to cause it to occupy itself with some form of study or mental exercise. In some of the Insane hospitals there are classes, where often both teacher and taught are patients; in others there are courses of scientific lectures; in others the study of our own literature and that of other nations is encouraged; some pursue art studies, or practice drawing, painting or designing; others are pursuing philological studies; for still others, physical science in some of its branches is a favorite pursuit; while to many horticulture, the care and rearing of plants and flowers, or the exercises and games of the gymnasium, afford the needed recreation. Libraries and reading-rooms have come to be a necessity for these hospitals, and in most cases nearly all the patients avail themselves of them. One result of this great change in the methods of treatment has been to increase greatly the number of cures of insane persons. Another apparent but probably not real result has been the increase of the number of insane patients. New Asylums or Hospitals for the insane are constantly erected, and no sooner are they completed than they are filled to overflowing. Yet it is not so much that there is such a rapid increase in the number of the insane, as that old cases, hitherto concealed, are constantly coming to light, under this humane treatment. There is undoubtedly a considerable increase in the number of the insane, the ratio of increase being probably somewhat greater than that of the general population, a consequence of the existing fast, pushing life of our people; but many thousands of the insane are now treated in hospitals, who, under the old regime, would have been con-

cealed in their homes, and their disease, and even their existence hardly known to the most intimate friends of the family. The great desideratum now is a Training School for attendants and nurses for this class of patients, as was suggested by Dr. Todd in 1830, and the introduction of Charitable Orders into their management, like that which has charge of the Mount Hope institution near Baltimore, Maryland.

The census of 1870 gives the whole number of insane persons in the United States as 37,382, of whom 26,161 are natives and 11,221 of foreign birth. This is probably not far from the truth, certainly not in excess of it. The number of insane hospitals in the United States in 1870 was 58, and four or five have been opened since. The number of patients was in 1870 15,598. It is probably now (1873) at least 17,000. Very many incurable cases, where the insanity is of a mild type, are at large, and many more are in alms-houses. In Massachusetts and New York, as well as in some of the Western States, there are in many of the larger alms-houses departments for incurable insane paupers.

XI. PREVENTIVE AND REFORMATORY SCHOOLS AND INSTITUTIONS.

Although there are occasional indications that individual philanthropists, like the benevolent Cardinal Odescalchi at Rome, and Sir Matthew Hale in England, had clear perceptions of the evil of leaving vagrant and morally endangered children as well as juvenile delinquents, exposed to the temptations to a vicious life, yet apart from a school established partially for them by the former in 1586, there seems to have been no serious movement in their behalf prior to the establishment of the school and home for vagrant and vicious boys at Rome, by Giovanni Borgi, (better known as Tata Giovanni, or Papa John,) in 1786 or 1787, and the organization of the "Philanthropic Society for the Prevention of Crime" at London in 1788. This last, originally established on the family plan, soon became a large establishment, in which a great number of boys were congregated and employed in different branches of manufacture, having also a probationary school of reform for the more vicious and criminal of its inmates. In 1846, a large farm was purchased at Red Hill, near Reigate, Surrey, agriculture and horticulture were substituted for mechanical and manufacturing pursuits, and the family

system for the congregated. Since that period the number of family reformatories, as they are called, has greatly increased in Great Britain. On the continent the eminent success of the agricultural and horticultural reformatories of Mettray, Horn, Ruysselede, and many others of more recent origin, has attracted general attention.

In this country the first institution intended for the reformation of vicious and criminal children, was the "New York House of Refuge for Juvenile Delinquents," incorporated in 1824, and opened January 1, 1825. Its founders were John Griscom, Isaac Collins, James W. Gerard, and Hugh Maxwell, all at the time members of a "Society for the Prevention of Pauperism and Crime," which had been formed in 1818. The institution thus founded has had a steady growth, as the rapid increase of population in the city has been attended by a more than corresponding augmentation of the number of juvenile delinquents. At the end of forty-eight years from its first opening it occupies a tract of thirty-seven and a half acres on the southern end of Randall's Island, in the East River, and its colossal buildings, erected at an expense of over five hundred thousand dollars, furnish ample accommodations for school-rooms, lodging-rooms, dining-rooms, and workshops for 1,000 children, and usually have in the institution more than 900.

In 1826, a "House of Reformation," on a similar plan, was established in Boston, and, in 1828, a "House of Refuge" in Philadelphia. Similar institutions have since been organized in New Orleans, Rochester, N. Y., Westboro', Mass., Cincinnati, Providence, Pittsburg, West Meriden, Conn., St. Louis, Baltimore, Louisville, and perhaps some other points in different States.

The distinguishing characteristics of these institutions are, that those committed to them have generally been arrested for crime, and have either been sentenced to the House of Refuge, in lieu of a sentence to jail or state prison, or have been sent to these institutions without sentence, in the hope of their reformation. They are supported, directly or indirectly from the public treasury, (the New York house receives an appropriation of \$40 for each child from the state treasury, from \$15,000 to \$20,000 from the city treasury, and a large sum from theatrical licenses). In most, or all of them, the children are employed in some branch

of manufacture, or some mechanic art, for from five to eight hours per day, and receive from three to five hours' instruction in school. In all there is more or less religious and moral instruction imparted, having in view their permanent reformation from evil habits and practices. In all, or nearly all, they are confined at night in cell-like dormitories, into which they are securely locked, and their labor, during the day, is under strict supervision, and is generally farmed out to contractors. High walls and a strict police are mainly relied on to prevent escape, and the attempt to do so, or any act of insubordination, is usually punished with considerable though not perhaps unmerited severity. The managers generally possess and exercise the power of indenturing those children who, after a longer or shorter stay, seem to be reformed, even though the period of their sentence has not been completed. A considerable number who have been sent to the House of Refuge on complaint of their parents, are, after a time, delivered to them on application; but a large proportion of these do not do well. Of the others, it is believed that from fifty to seventy-five per cent. reform, at least so far as to become quiet and law-abiding citizens. Of those who do not reform, some, after discharge at the end of their term, are soon recommitted; others are sent to sea, and perhaps amid the hardships of a sailor's life become reformed; others return to the vicious associations from which they were originally taken, and after a few months or years of crime, find their place among the inmates of the county or convict prisons, meet a violent death, or fill a drunkard's grave.

These institutions necessarily combine too much of the character of a prison with that of the school, and while their main object is the reformation rather than the punishment of the young offender, they retain so many penal features that they are objects of dread and dislike to many parents and guardians whose children or wards would be materially benefited by their discipline.

This feature of their management has led to the establishment of another class of reformatories which, though sometimes assuming similar names, are essentially different both in the character of their inmates and in the methods adopted for their reformation. These methods are indeed quite diverse in the institutions coming under this general head, and are to some extent the

reflection of the differing views of those who have charge of them.

The subjects taken in charge by these reformatories are somewhat younger on the average than those of the houses of refuge; they are for the most part only guilty of vagrancy and the vicious habits of a street life, or at the worst, of petty pilferings and thefts; they have not been, in most instances, tried for any crime against the laws, or if they have, their tender age has justified the magistrate in withholding a sentence.

When admitted to the reformatory, which is usually done on a magistrate's warrant, they undergo a thorough ablution, and are clothed in plain, neat garments having no distinguishing mark, are well fed, and carefully taught and watched over, and the utmost pains are taken to eradicate their evil habits, and to make them feel that their teachers and those who have them in charge are their best friends and seek their good. Their past history is never alluded to, and is generally known only to the superintendent. In these establishments there are no dormitory cells, and severe punishment is seldom found necessary. The labor of the pupils is seldom regarded as a matter of much importance, though in some instances three, four, or five hours a day are spent in some light employment. From these institutions escapes are unfrequent, and in most cases the children form a strong attachment for their teachers. In some instances they are broken up into groups or families of twenty or thirty persons, each having its "house father" and mother, and its "elder brother," if the pupils are boys, and its matron or "mother," and eldest sister or aunt, if they are girls. These officers teach them and perform the duties indicated by their titles in such a way as to supply, as far as possible, the place of those natural relations of whose judicious influence they are deprived. One of these reformatories is a ship, and the pupils are taught all the duties required of an able-bodied seaman, and the order and discipline are similar to those of the naval school ships. They are taught, in addition to ordinary common-school studies, navigation, and after a few months' instruction are in demand for the mercantile marine, where they not unfrequently are rapidly promoted.

In most of these institutions the pupils remain in the reformatory a shorter average period than those who are inmates of the houses of refuge. In the New York Juve-

nile Asylum, one of the most successful of these reformatories, they are usually indented or discharged in six to twelve months. These institutions are usually supported by the large cities, though in a few instances they are State institutions. The labor of the children being of but little account, the expense per head per annum is somewhat greater than in the houses of refuge, but the number of reformatory is also greater, and may with considerable certainty be estimated at from seventy to eighty per cent. Among these institutions we may name the "New York Juvenile Asylum," the "State Industrial School for Girls" at Lancaster, Mass., the "Massachusetts School Ship," the "Asylum and Farm School" at Thompson's Island, Boston, the "State Reform School" at Cape Elizabeth, Maine, the "Reform School" at Chicago, the "Catholic Protectories" at West Farms, N. Y., the "State Reform School" at Waukesha, Wisconsin, the "State Reform School" at Des Moines, Iowa, and the "State Reform Farm" at Lancaster, Ohio. In the last, which is the earliest attempt at the introduction of the family or group system for boys in this country, fruit culture is a leading employment of the inmates, and the term of detention is longer than at most of the others.

In our large cities there is still another class of children for whom special preventive agencies are necessary; they are not criminal, they have not generally acquired vicious habits, but they are *every way endangered*. They are often orphans or half orphans, and frequently homeless; many of them are children of foreign parents of the lower classes, and have had no opportunities of education; some are the offspring of vicious or intemperate parents. The greater part of them obtain a precarious livelihood by begging, sweeping crossings, boot-blackening, selling newspapers, statuettes, fruit, or small wares, or organ-grinding. They are all exposed to strong temptations to evil, and have acquired a kind of defiant independence from being driven so early to take care of themselves.

For these children it has been felt that some provision must be made to prevent them from falling into vicious and criminal courses, and to give them the opportunity of becoming good and intelligent citizens. It is from the ranks of these and the two preceding classes that most of our criminals come, and the frequency of burglaries, high-

way robberies, and crimes against the person, committed by boys and youths from 16 to 21 years of age, shows the necessity of continuing a guardianship over children who are under vicious influences, to as late an age as possible. The best method of accomplishing this desired end has often been discussed, and various plans have been tried with partial success. One organization, (the Children's Aid Society,) with its congeners in other cities, has taken the ground that these children could be saved and permanently reformed by gathering them up, and without any special training or attempts at reforming them, sending them to the West and placing them in good families in the country. With a part of these children, those most amenable to good influences, this plan has proved beneficial, but the very large class of reckless and morally depraved children, all whose associations had been impure and vicious, have become leaders in iniquity wherever they have gone. It should be said, in justice to the Children's Aid Society, that this deportation of children to the West has been but one department of its work; that it maintains, also, numerous industrial schools, has its boys' and girls' lodging houses, its Newsboys' Lodging House, and in many ways seeks to promote the reform and intellectual and moral culture of these morally endangered children. Other institutions have their schools, homes, and missions for these children, where they give them a good common school education and moral training, teach them the rudiments of music, employ them in some of the simpler trades, and try to rouse their ambition to become worthy and intelligent men and women. Of this class of reformatories, acting wholly voluntarily and not sustained by States or cities as such, are the Five Points Mission, and Five Points House of Industry, The Little Wanderers' Home, in New York, The Children's Aid Society and the Industrial Schools of Brooklyn, and similar institutions in all our large and some of our smaller cities. Many of these children are adopted or otherwise placed in families in the country, though not usually at a great distance from the city. Many of the boys go into manufactories or learn a trade, and employment is also found for the girls in manufactories, binderies, &c. But even with these helps to an honest and virtuous life, there is the evil influence of vicious associates, and the physically and

morally degrading surroundings of life in the crowded tenement houses, to undo the good which has been done in their instruction and training.

The Homes for the Friendless, Houses of Shelter, Homes for Friendless Girls, Female Christian Homes, Houses of Mercy, &c., &c., form still another class of institutions which give shelter, protection and instruction to young children and friendless girls, who would be the prey of the destroyer but for their care. The work of these institutions is wholly beneficent, and though they may not save all from the paths of vice, yet they accomplish, perhaps, a larger per centage of good than any of the others. Still another class of reformatory institutions, in which, however, the education is almost exclusively moral and industrial, are those for fallen women and those who have been exposed to terrible temptations; the Magdalen Asylums, Houses of the Good Shepherd, St. Banabas Houses, Midnight Missions, Female Homes of Prison Associations, &c., &c. Of late years, these institutions have received a new impulse, and under the control and superintendence of philanthropic and able Christian women, they are meeting with great success in the reformation of these wanderers from virtue. There are also now associations having for their object the reformation and restoration to an honest and upright life of discharged convicts, in most of our large cities; and they also look after those who, through ignorance, sudden temptation, or the malice of others, have been arrested and committed to our prisons and houses of detention.

The number of Houses of Refuge (our first class) is 17, the cost of their buildings and grounds is somewhat more than \$2,500,000, and the annual cost of their maintenance about \$700,000. Of the Juvenile Asylums and Reform Schools of the milder grade there are fourteen, the cost of their buildings and grounds about \$1,700,000, and the annual expenditure about \$450,000. The average annual earnings of the inmates of the two classes of reformatories is about \$260,000. The number of children in both is somewhat more than 9,000.

Of the institutions of the third class, it is impossible to give any approximately full statistics. They are not under State or municipal control, and though very numerous, and representing a very large amount

of investment and annual expenditure, they are entirely the offspring of private beneficence. In the city of New York alone there are nearly forty of them, and a proportionate number in other large cities. The institutions of the fourth class, in which the reformatory element dominates the educational, are also very numerous, and wholly sustained and endowed by private charity. That the aggregate investment, as well as the annual expenditure, of these two classes of institutions exceeds many times that of the public institutions of the first two classes is obvious, and some of our most careful statisticians have placed the investments at more than twenty millions of dollars, and the annual expenditure in the neighborhood of five millions. These are at best mere guesses, but from what we know of the institutions, are probably not beyond the truth. No institutions of the country reflect more credit on the national advancement and civilization than those which have for their purpose the rescue and reformation of imperiled and vicious children and youth.

[The whole subject of Preventive, Correctional and Reformatory Institutions and Agencies, as developed in France, Germany, and Great Britain, with special reference to the immediate recognition of the family principle in the organization and administration of similar institutions and agencies in this country, was treated quite exhaustively in the third volume of Barnard's *American Journal of Education*, in 1857, and the several articles were issued in a Supplementary Number, and in a separate volume entitled *Reformatory Education*, and distributed widely among city and state officials charged, directly or indirectly, with the administration or consideration of the problem of juvenile exposure, delinquency and crime. While Commissioner of Education, Dr. Barnard issued a circular to gather the material for a comprehensive survey of this department of educational institutions in different States and countries, and at the same time published a very valuable paper by Dr. Wichern, on the Reformatory Institutions of Germany, which have sprung up mainly on the model of the Rough House at Horn, of which he was the founder. He did not continue in office long enough to receive returns from his circular, but he will avail himself of recent publications and personal observation to issue a new edition of the volume above referred to.]

V. SUPPLEMENTARY INSTRUCTION.

INTRODUCTION.

Besides the formal instruction given in institutions expressly established for Elementary, Secondary, Collegiate, Professional and Special Education, there are other institutions and agencies which can act on the individual in almost every stage of his intellectual development, and do act with the greatest effect, in a majority of instances, after the individual has passed beyond the control of regular schools of every kind. These institutions and agencies in various ways influence the national taste, attainments and character, and may be considered together under the head of Supplementary Education. We select the two, as the most potential in our modern American civilization outside of the formal school—the Printed Page and the Living Voice—the Book and the Lecture—the Library and the Lyceum, to which should be added or associated, Occupation.

(1.) *The Book.*

The finest minds have exhausted their powers of language in trying to express in words the value of Books. To Cicero, the orator and statesman, the volumes which composed his private library “seemed to add a soul to his dwelling;” to Bacon, the philosopher and man of affairs, “Libraries are as shrines where all the relics of ancient saints, full of true virtue, and that without delusion and imposture, are preserved;” to Milton, the poet, and fervid apostle of religious and civil liberty, “A good book is the precious life-blood of a master spirit, embalmed and treasured up on purpose to a life beyond life;” “God be thanked for books,” says the clear, pure, and eloquent Channing, in his address to young men and working men, which has found an echo in millions of hearts and homes—“they are the voices of the distant and the dead, and make us the heirs of the spiritual life of past ages. They are the true levelers. They give to all who will faithfully use them the society of the best and greatest of our race. No matter how poor I am—no matter though the prosperous and the fashionable will not enter my obscure dwelling—if the Sacred Writers will enter and take up their abode under my roof, if Milton will cross my threshold to sing to me of Paradise, and Shakspeare to

open to me worlds of imagination, and Franklin to enrich me with his practical wisdom, I shall not pine for want of intellectual companionship.”

(2.) *The Living Voice.*

But as a teacher, for rousing the dormant faculties, and fixing and adjusting the attention, particularly of adults, the living voice is far more efficient; and when associated with books used in class or in solitary study, and combined with observation of nature, or the actual processes of business in hand—the living voice can suggest the motive, the means, and the methods to supplement, rapidly and pleasantly, all deficiencies of school instruction.

(3.) *Occupation.*

No formal institution of instruction, no agency employed in the class or lecture-room, no book however rich in individual or accumulated wisdom, can compare in the work of self-education with the processes of the daily occupation of an individual, thoughtfully pursued in the field, the household, and the workshop. This is the school of New England handiness and inventions.

I. LIBRARIES.

At the close of the Revolution there were very few collections of books, either public or private, in this country. With the exception of political works, and these mostly pamphlets, a very few text-books and hymn books, one or two editions of the Bible printed from type (stereotype plates were unknown till much later), and perhaps a dozen religious treatises, the books in the country were all imported from Europe, and generally from England, either in small quantities by the booksellers or in single copies by individuals. The Revolutionary War, though in the end favorable to education and intelligence, at first was a serious hindrance to both; for with the political disenfranchisement of the country from the British yoke, there sprang up a strong desire to be free from it also in all matters of trade, of literature, and of education; and as there were very few publishers who possessed the requisite capital and daring to publish books in considerable numbers, for which, indeed, in the impoverished condition of the country, there would have been but little demand. A few of the twelve or thirteen colleges had small libraries. Of these the largest was that of Harvard University, which, though destroyed by fire in

1764, had by great exertions brought up to about 10,000 volumes in 1783; Yale, Princeton, William and Mary, the University of Pennsylvania, and Kings (now Columbia) College had each small collections, though containing some valuable books; but none of them much exceeded, after the vicissitudes of the war 2,000 volumes, and the library of William and Mary had, probably, not more than 1,200 or 1,400. Brown University, Dartmouth, and Rutgers had made small beginnings. There were six or seven small proprietary libraries, the largest being the Philadelphia Library Company and Loganian Collection, founded by Franklin in 1731, and having in 1783 about 5,000 volumes; the New York Society Library at the beginning of the war contained 7,000 or 8,000 volumes, but the British soldiers carried off its books by the knapsackful and bartered them for grog. In 1795 it had only 5,000 volumes, though considerable additions were made to it after the war. The Redwood Library, at Newport, R. I., was not large, but had a considerable number of very choice and valuable books. The Charleston Society Library had been one of the largest in the country, but was almost entirely destroyed by fire in 1778. The Providence, Salem, and Portland Atheneums, founded respectively in 1753, 1760, and 1765, had small collections but well selected. Beside these there was the special library of the American Philosophical Society at Philadelphia, and a State Library of a few hundred volumes at Concord, New Hampshire. This was, we believe, a complete list of all the public libraries of any importance at the close of the Revolutionary War. Nor was the period from the close of the war to 1800 favorable to any considerable growth of either libraries or literary institutions; for libraries being among the outgrowths of an opulent and luxurious civilization, we could hardly look for their increase amid the poverty and financial revulsions which continued till near the close of the last century. The eleven colleges, elsewhere enumerated, which were founded between 1781 and 1800 have now respectable and some of them very considerable libraries, but they are all, or mainly, the growth of the period since 1820. Of other libraries, there are only three, and those of inferior grade, which were founded during this period (1781-1800). These are the Boston Library Association, founded

in 1794, and which now at the end of nearly 80 years has about 20,000 volumes; the Byberry Library of Philadelphia, founded the same year, and one in Dublin, New Hampshire, in 1793, each of which now numbers 2,000 volumes.

Between 1800 and 1818 there were eleven Colleges and seven Theological Seminaries founded, most of which have now good, and some of them large libraries. To this period belong also the beginnings of the Boston Atheneum, now the fifth or sixth library in the country in the number of its volumes; the first library of Congress, destroyed by the British in 1814, the large collection of the New York Historical Society, and the Ohio State Library at Columbus, the commencement of the special libraries of the American Antiquarian Society at Worcester, and the American Academy of Natural Sciences at Philadelphia, and ten or twelve smaller public libraries, mostly State, which were originally established at the capitals for the accommodation of the courts and legislators.

Since 1818, a period of fifty-four or fifty-five years, about 340 collegiate institutions, more than 130 schools of superior instruction for girls, fifty-six agricultural and scientific schools, more than one hundred theological institutions, 40 law schools, and about 90 medical and pharmaceutical schools, have been established, and nearly all these have libraries of greater or less extent, forming a grand aggregate of over 2,500,000 volumes; more than thirty State libraries have been founded with about 400,000 volumes—the largest being those of New York at Albany, with 90,000 volumes; Michigan, with about 42,000; Ohio, about 40,000; Massachusetts, with 37,000; Maine, with 33,000, and Virginia with about 30,000. Within this period, too, the great free libraries of the country have all been established; the Library of Congress in place of that destroyed by the British, and now numbering 246,000 volumes and 45,000 pamphlets; the Astor, with about 170,000 volumes; the Boston City Library, with 183,000 volumes; the Loganian and Philadelphia Library Company, which though previously founded, has had its principal growth since 1818, and under the recent bequest of Dr. James Rush is likely to become one of the largest libraries in the country, numbering as it now does 100,000 volumes; the New Lenox Library of New

York, so grandly endowed, and having as a nucleus Mr. Lenox's own extensive and invaluable collections; the Watkinson Public Library of Reference at Hartford, with about 30,000 volumes, and some sixty or seventy other free libraries in the Northern and Eastern States, ranging from 5,000 to 28,000 volumes each. The law regulating the establishment and management of free town libraries in Massachusetts has greatly encouraged their growth, and most of the cities and many of the large towns of that State have now good, though not generally very large public libraries sustained by the towns. A few brief notes respecting some of the largest of these libraries may be interesting.

The Library of Congress has grown very rapidly within a few years past, the Peter Force Collection of American History, the Smithsonian Library being included with it, and since 1869 the issue of copyrights being vested in its chief librarian, which secures to it two copies of every book copyrighted in the United States. In its 246,000 volumes there are at least 30,000 duplicates, but it is very rich in the transactions of foreign learned societies, in American local and general history, and indeed in history generally; and has probably the best collection of works in every department of political science to be found in this country. It is a lending library only to members of Congress and government officials, but is free for reference and consultation to all others.

The Astor Library was founded by a bequest of \$400,000 by John Jacob Astor, in 1844, but was not opened till 1854, when it had about 80,000 books upon its shelves. Mr. William B. Astor, son of the founder, has erected a second building for its extension, as well as expended freely in the purchase of books, to the aggregate amount of \$200,000. Its present number of volumes is about 170,000. It is not a lending library, but is open for consultation, with all conveniences provided, for six or eight hours each day. The Philadelphia Library and Loganian Collection is one of our oldest libraries, but has grown rapidly within a few years past, and is now so largely endowed as to be able to take rank with the largest in the country, within a few years. The Boston City Library, now ranking next to the library of Congress among the free libraries, has had a wonderfully rapid growth since its foundation in 1848. Joshua Bates,

a native of Boston, but long resident in London, has more right than any other man to be considered its founder, as his original gift of \$50,000 and several thousand volumes of books, prompted the liberality of individuals, as well as the city authorities, who have done their part nobly in fostering and providing for its extension. Of its other benefactors we may name Jonathan Phillips, Josiah Quincy, Jr., J. P. Bigelow, Edward Everett, Robert C. Winthrop, George Ticknor, Theodore Parker, and others. It has now nearly 190,000 volumes. It is in part a lending library, and the first great free library in the world which has carried the lending system to such an extent. It has, of course, its specialties, but the trustees endeavor to make it complete as possible in all departments.

The Lenox Library, the buildings for which are now (1873) erecting in New York, will be, unquestionably, one of the most valuable of American libraries. Its founder, with scholarly tastes and abundant means, has long been engaged in collecting a private library containing the rarest and most valuable literary treasures which money could purchase. In its collection of Bibles, missals, block-books, and indeed *incunabula* generally, it has no superior on this continent, and not more than one or two in Europe. This choice and valuable collection is to form the nucleus of the grand library for which he is now preparing a home, and in which his ample endowment will soon gather an accumulation of literary wealth which will make it a library worthy of the great American metropolis.

There is another class of libraries, usually free for consultation, some of which have attained, within the past thirty years, to considerable magnitude, viz., those of the historical societies. Of these, the largest are: the Wisconsin State Historical Society's Library, at Madison, of 50,500 volumes; the New York Historical Society's Library, with 31,000 volumes; the Long Island Historical Society's, in Brooklyn, which in ten years has accumulated nearly 26,000 volumes; the Massachusetts Historical Society's, with nearly 19,000 volumes; the Connecticut Historical Society's, with about 25,000, including Dr. Thomas Robbins' valuable collection in ecclesiastical and New England history; the Maryland Historical Society's, with 17,000 volumes; the Minnesota Society, with 13,500 volumes; the American

Antiquarian Society, at Worcester, about 52,000 volumes; and the New England Historical and Genealogical Society, of Boston, about 12,000. There are two or three others, with less than 10,000 volumes each. Several of the Scientific Societies and Institutes have special libraries of great value and considerable magnitude, the largest being those of the Academy of Natural Sciences, Philadelphia, 23,500; the American Philosophical Society, also of Philadelphia, 18,000; the Natural History Society, of Boston, 13,000; and the American Institute, New York, 10,500.

The late George Peabody, among his other benefactions, provided for three or four considerable libraries; that of the Peabody Institute, at Baltimore, having already 43,000 volumes; the Peabody Institute, at Danvers, Mass., about 20,000 volumes; the Institute at Peabody, 14,300 volumes; and another at Georgetown, D. C. Other men of public spirit have endowed similar libraries in various parts of the country, as, David Watkinson, at Hartford, Conn., Silas Bronson, at Waterbury, Conn., Ezra Cornell, at Ithaca, N. Y., and Peter Cooper, in connection with the Cooper Union, at New York.

We come next to the class of Proprietary and so-called Mercantile Libraries, all lending libraries, and requiring, in addition to a greater or less endowment, an annual or life subscription from all who would participate in the use of the library, lectures or classes. Some of these have attained to the highest rank among our great libraries, as, for instance, the Mercantile Library, of New York, which has over 154,000 volumes; the Boston Athenæum, which has 108,000; the Mercantile Library, of Philadelphia, 59,000; the Mercantile Library, of Brooklyn, which has 45,000; the Mercantile Library, of Cincinnati, which has 42,000; that of St. Louis, with 34,000; the Providence Athenæum, with 32,000, the New York Society Library with the same number, and Mercantile Libraries and Young Men's Institutes in San Francisco, Baltimore, Hartford, Conn., Boston, Detroit, Pittsburgh, Cleveland, and other cities, with libraries ranging from 20,000 to 30,000 volumes each.

The Young Men's Christian Associations have in many cases founded libraries which, though seldom large, yet supply, to some extent, the demand for books of their members. The Association in Washington, D. C., has, we believe, the largest of these li-

braries, numbering about 13,000 volumes; the others are all under 10,000 volumes, though several approximate that number. The aggregate number of volumes in these libraries exceeds 150,000.

In several of the Northern and Western States there are libraries of greater or less extent connected with the public schools; not always wisely selected, and in some cases not much used, but in the aggregate forming a vast number of books. The latest school returns indicate that there are more than 5,000,000 volumes in their libraries.

We have thus passed in review the principal public libraries of the country. There are according to the latest returns: one library of about 250,000 volumes; three of over 170,000; one of over 150,000; two of over 100,000; two of over 90,000; five of over 50,000; seven of over 40,000; twenty-one of over 30,000; fifty of over 20,000; one hundred and thirty of over 10,000; and two hundred and seventeen of 5,000 and over. The total aggregate of volumes in college, State, national, proprietary, subscription, free, town, and school libraries is very nearly twelve millions volumes, and is increasing with great rapidity.

There is still another class of libraries, containing, in their totality, a vast number of volumes, and in many cases of considerable size and value, viz., the Sunday School libraries. Few of these contain less than 200 volumes, and many of them have upwards of 1,000. More than 6,000 different works have been published for these libraries within the last twenty-five years, by the publishing societies and private publishers, and large drafts are also made by the larger schools on English publications, and those intended for adults. Estimating the number of these schools at 56,000, or about two-thirds the number of churches, and the volumes in each library at 200, we have more than 11,000,000 volumes collected in these humble libraries.

As might have been expected, the rapid growth of public libraries has stimulated gentlemen of wealth and intellectual tastes to collect private libraries of considerable extent, and in many cases devoted to some specialty. In many cases these collections, on the death of their owners, or sometimes during their lives, come into the possession of some great public library, adding greatly to its value in certain directions. Thus the magnificent private library of James Lenox,

to which we have already alluded, is to form the nucleus of the Lenox Library; the fine collection of works on the fine arts, of Rev. Dr. Magoon, has become the property of Vassar College, and the life-long accumulations of the late Peter Force, in American general and local history, have been incorporated into the Library of Congress, and so of the collections of Spanish literature of Mr. Ticknor. There are said to be, in the city of New York alone, fifty private libraries, containing 10,000 volumes or more each, and in Boston quite as many. Philadelphia has also a large number, while Cincinnati, St. Louis, and San Francisco, have each their fair share. So, too, had Chicago before the great fire destroyed the accumulations of books which her wealthy citizens had made in many years of liberal expenditure. Brooklyn has for some years past been noted for its valuable private collections, and those of Henry C. Murphy, J. Carson Brevoort, T. W. Field, A. J. Spooner and others, in local and general history and geography, of Rev. Dr. Storrs, and Rev. H. W. Beecher in Christology and general English literature, and of several other gentlemen in illustrated and costly productions, are specially noteworthy. Of other remarkable collections of works illustrating American history, the most valuable are those of George Brinley of Hartford, George W. Greene of Providence, George Bancroft, W. J. Davis, William Menzies, and J. R. Brodhead of New York, J. L. Motley and Robert C. Winthrop of Boston. The library of Hon. Henry Barnard, of Hartford, Conn., is more complete on the subject of education than any other in the country; that of Rev. Barnas Sears, at Staunton, Virginia, is very full on some departments of the same subject; that of S. Austin Allibone, of Philadelphia, is remarkable for its collections on English biography, literature and criticism; that of W. Parker Foulke, of the same city, on prisons and prison discipline; that of C. L. Bushnell on numismatics; that of J. A. Stevens, Jr., on the literature of the Middle Ages; those of Messrs. W. P. Chapman, R. G. White, and J. W. Wallack, on dramatic and especially Shakspearean literature; that of D. W. Fiske, on Scandinavian literature; that of Rev. W. R. Williams, on Welch Literature and Ecclesiastical History; that of R. M. Hunt, on architecture; those of Rev. Dr. Forbes, Rev. Dr. H. B. Smith, Rev. Dr. E. F. Hatfield, Rev. Dr. S. H.

Tyng, and Rev. Dr. Morgan Dix, on theology, ecclesiastical biography, and patristic literature.

There are, in connection with many of our benevolent and humane institutions, special libraries containing 100 to 1,000 volumes each, devoted to the particular work of those institutions. Some of these we have already enumerated. Among the most noteworthy of the others are the collections of works on Deaf Mute instruction in the American Asylum for the Deaf and Dumb at Hartford, and the New York Institution for the Deaf and Dumb; the collection of Bibles in all languages and of all dates, of the American Bible Society; the early versions, codices and fac similes, and the extensive collections of works on biblical criticism and exegesis, procured by the American Bible Union for the use of its translators; the library of the American Congregational Union in Boston, remarkable for its religious periodical literature; that of the American Board of Commissioners for Foreign Missions, containing not only a vast amount of missionary literature, but nearly a complete set of all the publications issued by its missionaries; that of the New York Geographical Society, very full on geographical topics; that of the Lyceum of Natural History, of New York, now deposited with the Mercantile Library of that city, and remarkable for its collections of the transactions of Foreign societies; and that of the National Prison Association, which, though recently established, has a very complete collection of both American and Foreign Works on Prisons, Punishment and Prison Discipline. The following table gives a list of the principal libraries of the country, with the date of their organization and the number of volumes, as near as can be ascertained, at the close of the year 1872.

II. THE LYCEUM AND OTHER LECTURE INSTITUTIONS.

The origination of the lyceum as a means of mutual instruction in this country is due, in the first instance, to Benjamin Franklin. His "club for mutual improvement" was founded in Philadelphia in 1727, and after forty years' existence became the basis of the American Philosophical Society. There probably were other societies for mutual improvement organized in different towns and cities of the country, during the hundred years that followed the organization of Franklin's club; but there are no records of any such in the possession of the public,

previous to 1824, when Timothy Claxton, an English mechanic, succeeded in founding one, or rather in modifying a reading society, which had been in existence for five years, into what was really a lyceum, in the village of Methuen, Mass. Its exercises were weekly, and in the following order: the first week, reading by all the members; the second week, reading by one member selected for the purpose; the third week, an original lecture; the fourth week, discussion. In 1826, Mr. Josiah Holbrook, then of Derby, Conn., communicated to the *American Journal of Education*, then conducted by Mr. William Russell, his views on the subject of "*Associations of Adults for the Purpose of Mutual Education*," in which were contained the germs of the plan of the *Lyceum*, as subsequently developed by him in his lectures and publications. From the first, his views were of wider scope than the organization of a mere local association; they comprehended the establishment of such associations in every town and village, and their union, by representation, in county, state, and national organizations. They contemplated also, not only mutual instruction in the sciences, but the establishment of institutions for the education of youth in science, art, and morals; the collection of libraries, and of cabinets of minerals and other articles of natural or artificial production, to be increased and enlarged by mutual exchanges, by the different associations. Lectures and practical agricultural occupation, the results of which, it was supposed, would materially diminish the cost of instruction, also formed a part of his programme.

The first association formed in accordance with this plan was organized at Millbury, Mass., by Mr. Holbrook himself, in November of the same year, and was called "Millbury Lyceum, No. 1, Branch of the American Lyceum." Other towns soon after organized lyceums, and these were combined a few months later into the Worcester County Lyceum. Not long after, the Windham County, Conn., Lyceum, with its constituent town lyceums, was established; Rev. Samuel J. May, then of Brooklyn, Conn., rendering valuable assistance in the work.

From this time onward to his death in 1854, Mr. Holbrook devoted his whole energies in one way and another to the promotion of these institutions, and to such measures in connection with the cause of

education as should promote mutual instruction in children as well as adults. By scientific tracts, by newspapers and other publications, by the manufacture of school apparatus, and by the collection of small cabinets of minerals, to serve as *nuclei* for larger cabinets, by scholars' fairs, by lectures, and long journeys, and by appeals to the members of Congress and of the State Legislatures, he succeeded in rousing a powerful and continued interest in the subject of mutual instruction, which, if it did not accomplish all his own plans, at least gave a wonderful impulse to the general intellectual culture of the nation. The lyceums he founded have passed away, at least in their original form, but in their places, and in a great measure as an indirect result of his agitation, we have in every considerable town or village Debating Societies, Young Men's Institutes, Mechanics' Institutes, Library Associations, Young Men's Christian Associations—the four latter often with circulating libraries, courses of lectures, and classes for instruction in science, art, and languages, and in many cases with schools and classes attached. We have also lecture foundations, either connected with our colleges or professional schools, or independent, in which courses of instruction in physical science, history, literature, or language, are communicated to popular audiences.

In rendering the scientific lecture a popular institution, our country is greatly indebted to the late John Griscom, LL.D., Prof. B. Silliman, Sr., Rev. Henry Wilbur, and Truman W. Coe, Esq. Dr. Griscom delivered his first course of popular lectures on chemistry in New York city in the winter of 1808; they were largely attended, and were continued for a series of years. Prof. Silliman commenced popular lecturing on the same subject in New Haven about the same time, in connection with his professional courses. He subsequently delivered popular courses of lectures on chemistry and on geology in many of the large cities of the country. Within the last thirty or thirty-five years the late President Hitchcock of Amherst College, the late Prof. Shepard, Prof. Dana of Yale College, the brothers Rogers, now both dead, Prof. Henry, and other eminent geologists, have given courses on geology to popular audiences; Prof. Guyot and others have lectured on physical geography; the late Horace

Mann, Charles Brooks, David P. Page, Henry Barnard, John D. Philbrick, S. B. Woolworth, T. H. Burrows, E. A. Sheldon, and a score of others on educational topics; Hon. George P. Marsh, Profs. W. D. Whitney, S. S. Haldeman, and others, on language; Profs. Doremus, Draper, Silliman, Jr., Cooke, Richards, and others, on chemistry; Profs. Agassiz, Morse, Dana, and others, on palæontology and natural history; the late General and Prof. Mitchel, Youmans, Eaton, Morse, Loomis, G. F. Barker, Young, Sir Charles Lyell, and Professor Tyndall, on astronomy, spectroscopy, and light; Messrs. Bayard Taylor, Kane, Hays, Hall, Du Chaillu, Powell, and others, on their explorations; the late Prof. Lieber, Baird, Walker, Wells, Perry, and others, on political philosophy and financial topics, and other eminent scholars on other subjects.

The Lowell Lectures at Boston, founded by the munificence of the Hon. John Lowell, gives annually several free courses of lectures to large audiences on the most important branches of moral, intellectual, and physical science, and from the liberality of its compensation to the lecturers, induces elaborate and conscientious preparation on their part; and the benefit of this preparation inures also to other audiences, to which these lectures are repeated. The Graham Institute in Brooklyn, N. Y., has a similar though less opulent foundation, and its courses of lectures have been remarkable for their ability and adaptation to a popular audience. Other foundations have been established for lecture courses in other cities, but for the most part in connection with colleges or theological seminaries.

The noble Peter Cooper foundation, in New York city, is very broad, covering a very large reading room, supplied with all the best foreign and American newspapers, literary, scientific, and technological periodicals, a considerable and very valuable library, evening schools in mathematics, mechanics, languages, &c., schools of design and mechanical drawing, wood engraving, painting, architecture and sculpture, and courses of lectures on practical science.

The late George Peabody, among his other good works in the cause of education, endowed an institute in Baltimore with a fund of over a million dollars, to include a library, courses of lectures on science, art, and literature, prizes for scholarship in the high schools, an Academy of Music, and a

Gallery of Art. He also provided for an Institute of Archæology at Cambridge, with an endowment of \$150,000, a Museum of Natural History at Salem with the same amount, and a Department of Physical Science at Yale College with a similar sum.

Harvard University has also established, within two or three years past, courses of lectures of the very highest grade, open to all upon the payment of the fees, in which scholars of the first rank have discussed, at their leisure, topics usually considered above the ready comprehension of any but the well educated class. These lectures were not largely attended.

For some years there seemed to be danger that the courses of lectures given under the superintendence of the Young Men's Institutes and Mercantile Library Associations would become merely the means of amusing rather than instructing the audiences, and so would lose their character of supplementary means of education; but this danger is now evidently passing away; the lectures best attended are those which have the highest scientific character, provided the science is duly popularized. One agency in securing this beneficial result has been the Young Men's Christian Associations, which, by making the standard of their lectures high, have compelled other organizations to do likewise.

Under this head of means of supplementary instruction should perhaps also be included those institutions, all very recently founded, and which do so much honor to their founders, which, while they contemplate mainly systematic instruction, provide to some extent popular courses in the practical arts and technological science. Among these we may name the "Massachusetts Institute of Technology," at Boston; the "Museum of Comparative Zoölogy," at Cambridge; the "Worcester Free Institute;" the "Horticultural School for Women," at Newton Center, Mass.; the "Thayer Engineering School," of Dartmouth College; the "Stevens Institute of Technology," at Hoboken, N. J.; the "School of Mines," of Columbia College, New York; the "Scientific School of Lehigh University," South Bethlehem, Pa.; the "Polytechnic College," of Philadelphia; the Agricultural Department of "Hampton Institute;" some of the practical departments of "Cornell University;" and the "O'Fallen Polytechnic Institute," of St. Louis, Mo.

VI. SOCIETIES FOR THE ADVANCEMENT OF SCIENCE, EDUCATION, AND LITERATURE.

INTRODUCTION.

As means of supplementary instruction, and largely in those higher walks of literature and science not generally cultivated, the Scientific and Literary Societies of the country have been of great service. They may be divided into two classes: those of a general character, which, while principally devoted to the promotion of some particular subject, as history, local and general, geographical science and discovery, genealogy and biography, and in some cases natural history, antiquarian researches, prison discipline and statistics, ethnology and philology, yet admit other topics more or less connected with these, and receive as members persons not specially versed in these subjects, their object being to enlist a large clientage in their pursuits, and, by collecting a library and museum, and having courses of lectures, to popularize their labors and increase their resources. A second class are more strictly scientific in their character, admitting members only after careful scrutiny, and on proof of their attainments in the special range of inquiry to which the society or association is devoted. To this class belong the American Academy of Arts and Sciences, the American Academy of Natural Sciences, the Boston Natural History Society, the Essex Natural History Society, the American Oriental Society, the National Academy of Science, and several peripatetic associations holding their annual congresses in different cities and sections of the country, every year. Among these the oldest, and usually the best attended, is the American Association for the Advancement of Science.

Besides these more technically scientific associations, there are societies of more strictly educational and philanthropic aims, both National and State, such as the American Institute of Instruction, and more recently the American Association for the Advancement of Social Science. A National Prison Congress has also held two sessions, and led to the formation of an International Prison Conference, which held its first session in London, in 1872.

(1.) *Literary and Scientific Societies.*

The Societies of the first class have been very useful from their exertions in collecting

historical and archæological documents, and relics and specimens illustrating the early condition of our country, the habits, customs, and mode of life of the Indian tribes, and often, also, similar particulars in regard to other nations and times. This has been particularly true of the Historical Societies, of which there are now one or more in most of the States, and even in some of the Territories. As we have seen in our account of the libraries of the country, several of these societies have made very large collections of books, not always exclusively historical, but embracing a wide range of literature. Most of them have also museums, more or less extensive, and often including many objects of great interest and value. The earliest of these societies is the Massachusetts Historical Society, founded in 1791, which has published over 50 volumes of Transactions and Collections. The New York Historical Society came next, in 1804, and has a fine library, large archæological collections, and many excellent portraits and historical paintings. It has also published several volumes of historical collections. The American Antiquarian Society, at Worcester, founded in 1812, mainly by the efforts of the late Isaiah Thomas, has a fine library and an archæological collection of great value and interest. The Connecticut Historical Society, established in 1825 at Hartford, and the Georgia Society, at Savannah, founded in 1839, have fine libraries and museums of considerable value, that of Connecticut receiving the library and collection of Rev. Thomas Robbins, D. D., begun fifty years before. The Maryland Historical Society, founded in 1843, the Minnesota Society, at St. Paul, founded in 1849, the Chicago Society, founded in 1856, and the Long Island Society, at Brooklyn, L. I., founded in 1862, are the most efficient of the younger societies. All have good libraries, some of them very large ones, and by courses of lectures, by able papers prepared by their members, and by sub-organizations within their membership, they succeed in enlisting public interest and in popularizing their special objects.

There are not more than two or three distinct Geographical Societies in the country; the oldest and most efficient, the American Geographical Society, of New York, has had a hard struggle with adverse fortunes, but through the devotion of some of its

past and present officers, has at last attained to a commanding position. It devotes itself exclusively to its specialty, and has collected an exceedingly valuable library and collection of maps and charts, as well as other articles illustrative of geographical discovery. It has taken an active part in promoting the voyages and journeys of exploration which have been sent out to the Arctic Ocean and elsewhere, and it has done much to promote a more thorough study of geography and more accurate map drawing. There are two or three Genealogical Societies, the membership of which is mainly composed of those who take an interest in genealogical, biographical and historical researches, though not exclusively so, as it is the aim of those who are the founders of these societies to awaken a more general interest in their pursuit.

The Natural History Societies are more numerous. Every considerable city in the country has more or less students of natural history, and these have generally associated themselves either in a Natural History Society, or in a department of natural history connected with a historical society, or literary society.

Of late years, many of our larger and older colleges, as Yale, Harvard, Williams, Amherst, Union, Cornell, Michigan, &c., &c., have their Natural History Societies, the officers of which are often members of the College Faculty, and several send out their delegations either during the vacations, or sometimes in term-time, on exploring expeditions.

The American Philological Society was founded about the year 1860, by Rev. Nathan Brown, D. D., now missionary in Japan, having primarily two objects in view, one the propagation of a phonetic system of writing and printing not liable to the objections which attached to others previously propounded to the public; the other, the approximation to a universal language, or at least the elements of one, which should make it easier and more practicable to multiply copies of the Bible and religious books among all nations. Incidental to this was the accumulation of vocabularies of all languages, which had been either partially or wholly reduced to writing for the purposes of comparison and study, and analyses of the language of savage tribes, to ascertain, as far as practicable, the elements which were common to them; and, also incident-

ally, the collection of manuscripts, books, leaves, inscriptions, and drawings, by savage or half-civilized nations, as well as specimens of their manufactures, their idols, &c., &c. The Society has accumulated a small library and museum, and is prosecuting its purposes with earnestness. Its membership is open to all, but is practically limited to those who take an interest in its investigations.

These are the most important of the Societies of the first class. Of those of the second class, which lay a more exclusive claim to the title of 'Scientific Societies,' we need say but little, as their names generally give an idea of their purposes and objects. The American Philosophical Society, founded in Philadelphia in 1743, is the oldest of our existing Scientific Societies. The American Academy of Arts and Sciences was founded in Boston in 1780, and has published several volumes of Transactions. The Connecticut Academy of Arts and Sciences was founded at New Haven in 1799, and has made many valuable contributions to science. The American Academy of the Natural Sciences was founded in Philadelphia in 1818, and though meeting with many discouragements in its earlier history, has recently erected a suitable building for its vast collections of fossils, animals and birds, and the Morton collection of skulls, the finest on the American continent. It is in a more prosperous condition, perhaps, than any other of the scientific societies. The Boston Natural History Society has a very fine museum.

The Association of American Geologists, one of the traveling associations, founded in 1840, was in 1845 absorbed in the American Association for the Advancement of Science, which still maintains its annual congresses, with a session usually of two or three weeks. It comprises the greater portion of the scientists of the country, and its papers and essays are often of great merit and permanent value. The National Institute, a scientific society founded in Washington in 1840, after a few years of activity, transferred its collections to the Smithsonian Institution.

The Smithsonian Institution, though a very active organization in the diffusion of knowledge among men, with large resources, can hardly be classed as a scientific society, since it has no membership except its regents and officers. Its books have been transferred to the Library of Congress, and its valuable collections are open to all

scientists, and facilities provided for the distribution of its specimens and publications to such colleges, museums, and scientific societies as will make a suitable use of them for promoting its objects. It was chartered in 1846.

The American Oriental Society, at New Haven, founded in 18—, mainly through the efforts of Prof. Salisbury, has, in the few years of its existence, contributed greatly to the promotion of our knowledge of Oriental languages and science.

The National Academy of Science, founded by act of Congress in 1863, and limited to fifty resident associates, is an attempt to blend the French Institute with the peripatetic plan, which, in the American Association and other institutions, had proved so efficient in this country. Its meetings are either annual or semi-annual, and held at different points. Its sessions are from one to two weeks, and its members are divided into working sections. Its meetings are public, and papers on different scientific topics are read by members, and may be contributed, by those not associates, through members. The election of new members to the vacancies made by death are prefaced by a rigid and protracted scrutiny. One of the conditions of its incorporation is the obligation to investigate and report on any scientific subject referred by any department of the government for its consideration.

The American Philological Association was organized in 1869, though preliminary meetings had been held in 1868. It is one of the peripatetic associations, and has for its objects the more perfect mastery of the ancient classical languages and literature, and investigations into the structure and philosophy of the Indo-European and Oriental languages. It has printed three volumes of its annual proceedings.

The latest of these scientific societies is the American Union Academy of Literature, Science, and Art, founded in 1869 in Washington. It embraces within its scope the entire circle of the sciences, and is divided into ten sections or departments, each of which is presided over by a supervising committee of three, through whom all papers in their several departments must be presented, and, if approved, reported to the Academy, and published if the Academy so order. The membership is limited to such as are proficient in some branch of knowledge coming under one of the ten sections,

and the ballot, after a favorable report by the committee of that section, must be unanimous or they are not elected. Prof. J. W. Draper, M. D., LL. D., was the first president.

(2.) *Educational Associations.*

The American Institute of Instruction, founded in 1830, the American Association for the Advancement of Education, from 1849 to 1856, and the National Teachers' Association, founded in 1857, have been of great service in raising the standard of educational discussion and diffusing a knowledge of the best methods and true aims of education. But far more broadly useful have been the State Teachers' Associations, acting as they do on much larger bodies of teachers in so many States from year to year.

The earliest of the State Associations was that of Rhode Island, which held its first meeting in January, 1845. This was followed by that of New York on July 31st, and of Massachusetts on the 29th of November of the same year. The teachers of Ohio, in 1847; of Connecticut, in 1848; of Vermont, in 1850; of Michigan and Pennsylvania, in 1852; of Wisconsin, Illinois and New Jersey, in 1853; of Iowa, New Hampshire and Indiana, in 1854; of Maine, in 1859; Kansas, in 1862; in California, in 1864; and within five years after the close of the War of Secession, the teachers of every State had organized associations for the improvement of their own profession, and the advancement of the educational interests of the country.

In most of the States, several country societies, and in all the large cities, local associations are in active operation.

The Western College Society originated in the depressed condition of certain colleges in the Western States (Western Reserve, Marietta, Wabash and Illinois Colleges, and Lane Theological Seminary,) which had been aided in their infancy by contributions from sympathizing churches at the East. This depression culminated in the financial reverses of 1837-41—when the investments in buildings and other forms, to the amount of \$400,000, seemed likely to be sacrificed for want of immediate aid. In 1842, on the suggestion of Rev. Theron Baldwin, the plan of an association was discussed by various parties interested, and matured in 1843 by the establishment of a Society for the Promotion of Collegiate and Theological Education at the West, by which upwards of a half million dollars

have been contributed to relieve the indebtedness, increase the endowments, and extend the usefulness of the institutions above named, but of more than twice that number of institutions of a similar character. But beyond these palpable results, the addresses and discussions which the judicious and indefatigable secretary and agent, Rev. Dr. Baldwin (the originator of the same), was mainly instrumental in eliciting throughout the Eastern States, has helped to raise the whole course of higher Christian education throughout the whole country. The society has recently extended the field of its beneficent labors, and is now engaged in building anew the crumbling walls of Southern colleges, and breathing fresh life into what war, always barbarous, has left of once flourishing institutions of learning.

These associations are not confined to the male sex, or to institutions in which boys are primarily regarded—many associations, some composed exclusively of women, and more for the advancement of female education, have been started which are still active. Among the earliest and latest is the *Ladies' Association for Educating Females*, in Jacksonville, Illinois, in 1833, and the *Woman's Education Association*, in Boston, in 1872—indication that a want was early felt in one of the newest States, which is not yet met in one of the oldest.

The Sunday School Union, and the educational societies of different religious denominations, are all incorporated associations for special educational purposes.

The American Association for the Advancement of Social Science, or, as it is more generally called, "The Social Science Association," founded in 1862, has, in its annual congresses in different cities, and in the sectional meetings at Boston, justified its existence by the ability with which it has handled many topics belonging to the vexed questions of educational and public economy.

In the development of educational association, the law of affinity, which finally governs all associations, has worked itself out in this wise,—first a general association of all interested in the main object, and by degrees, special associations of those only who are interested in some department of education, or class of institutions—and finally, a gathering of all teachers and educators on ground common to all. In 1853 a few college presidents gathered in an informal way to talk over the condition of

their institutions and some of the knotty problems of discipline, and curriculum, until now there is a regular annual meeting of delegates from all the colleges of New England. In Ohio, and in the States farther west, larger and more public associations have been formed. To get opportunities of special discussion, the teachers of Normal Schools held separate meetings at the close of the American Institute, or National Teachers' Association, until in 1869, out of all interested as officers and teachers, the National Educational Association was organized in 1869, with four departments: the first, of School Superintendence; the second, of Normal Schools; the third, of Elementary Schools, and the fourth, of Higher Instruction, each department meeting under its own president, for special papers and discussions and all the departments meeting together for general purposes.

(3.) *Industrial and Fine Arts.*

The Pennsylvania Academy of Fine Arts, founded in 1806, holds annual exhibitions, and maintains a school for the study of the antique, of the living model, of anatomy, of design, and painting.

The National Academy of Design, founded in New York in 1826, is an association of all the principal artists of the country, and maintains a school of instruction in art, as well as an annual exhibition of great excellence. Its members are divided into two classes or ranks, National Academicians or N. A. and Associates (A. N. A.), who, after two or three years probation, are promoted to the first rank.

The Cooper Union includes a Society of Associates for the promotion of science and art. The American Institute at New York, organized in 1827, has maintained an annual exhibition of the productions of scientific industry, and hold monthly meetings of its members, for the discussion of questions of science as applied to the arts of life.

Nearly every city has now an association to promote, by public exhibition of productions of painting and statuary, a taste for the fine arts, and in all industrial exhibitions whether state, county or municipal, there is generally a department devoted to ideal art. The new art associations in New York and Boston will greatly surpass any thing yet attempted.

* For history of the principal National and State Associations of an educational character down to 1864, see Barnard's *American Journal of Education*, Vols. XV. and XVI.

VII. EDUCATIONAL PERIODICALS AND REPORTS.

The earliest serial devoted exclusively to education was *The Juvenile Monitor*, issued in New York in 1811, by Albert Picket, who in 1818-19 published, in connection with his son, John W. Picket, *The Academician*, a large octavo, issued semi-monthly, and containing both original and selected articles of great value. Here was issued the first notices of Pestalozzi's and Fellenberg's views and labors, and very valuable chapters from Jardine's Outline of a Philosophical System of Education.

This field of labor remained unoccupied until the appearance of the *American Journal of Education*, commenced January 1st, 1825, at Boston, Mr. T. B. Wait publisher, and edited by Professor William Russell until 1830, when it was continued under the name of the *American Annals of Education*; the Annals appeared until the end of 1839, completing an entire series of fourteen octavo volumes. At different periods, William C. Woodbridge, Dr. William A. Alcott, and Prof. Hubbard (then of Massachusetts, but afterwards of North Carolina College at Chapel Hill,) were editors.

In 1827 the American Educational Society, founded in 1817 for the sole purpose to aid candidates for the ministry through their collegiate and theological studies, issued a quarterly journal devoted to the publication of the proceedings of the society, and to ecclesiastical matters. Under the charge of Prof. B. B. Edwards from 1831 to 1840, and of Dr. Cogswell, this periodical, which assumed in 1831 the name of *Quarterly Register*, devoted a portion of each number to educational intelligence, especially to the history and statistics of colleges, with two or three comprehensive surveys of the whole field of public instruction, founded on the personal observation and special correspondence of the editor, extending over the whole country.

In January, 1836, appeared the first number of the *Common School Assistant*, a quarto-monthly, edited by J. Orville Taylor, and was published at Albany, and afterward at New York, during four years and four volumes, and part of a fifth, ending in 1840. This periodical was energetically and usefully edited, and Mr. Taylor did much for the cause of popular education by publishing a *Common School Almanac*, and deliv-

ering forcible and apt addresses on educational subjects in many States of the Union. His expenses were largely sustained by James S. Wardsworth, of Geneseo, N. Y.

In January, 1839, Hon. Horace Mann, Secretary of the Board of Education for Massachusetts, issued the first number of *The Common School Journal* on his private responsibility, and continued its publication monthly to the close of the tenth volume in 1848, when he resigned his position to take his seat in Congress, as the successor of John Quincy Adams in the House of Representatives. The *Journal* was continued through 1852 by William B. Fowle, who had been for several years associated with Mr. Mann as publisher. The fourteen volumes contain all the Reports of the Board and the Secretary during Mr. Mann's connection with the same, and many very valuable articles by himself, and such personal friends as George B. Emerson, LL.D., Dr. S. G. Howe, W. B. Fowle, and others.

In August, 1838, appeared at Hartford, Connecticut, the first number of the quarto *Connecticut Common School Journal*, edited by Henry Barnard, Secretary of the Board of Commissioners of Common Schools, and was published during four years, ending in consequence of the strange reactionary rally which abolished the board in 1842. It contained the state public educational documents of each year beside valuable selections from treatises not readily accessible, and original articles of permanent value. A second series, in octavo form, was commenced by Mr. Barnard in 1850, and continued by him until January, 1854, when he surrendered its care to the Connecticut State Teachers' Association. The interval between 1843 and 1850 was covered by the publication of the *Journal of the Rhode Island Institute of Instruction*, embodying the official documents and action of the editor as Commissioner of Public Schools in that State. In connection with both journals the editor issued a series of *Educational Tracts*, copies of which he arranged with their publishers to have stitched to every Almanac sold in the State.

In August, 1855, Mr. Barnard issued the first number of his *American Journal of Education*, published at Hartford, quarterly, in octavo. This great repository of educational knowledge has been continued to the present time, and its twenty-fourth volume will be completed in 1873. It has accom-

plished the object set forth by its founder, and constitutes, in the nearly 21,000 pages already issued, the most comprehensive survey of the history, of systems (national, state, and city), and the biography, theory, and practice of instruction in all classes and grades of schools, both in the United States and other countries, to be found in any similar publication in any language.* It must be for many years to come the best available work of reference on all educational topics for the first three-fourths of the nineteenth century. It contains 130 excellent portraits from steel plates of eminent teachers and educators, and over 1,000 illustrations of school architecture. Since the date of his first Journal the growth of educational literature has been rapid. There are now in nearly every State one or more school periodicals of various titles and forms, but usually issued monthly, and in most cases the organs of the Teachers' Associations of their respective States. These are generally well conducted, and the articles contributed by teachers, who are either the appointed editors or correspondents of the periodicals, discuss with much ability topics connected with methodology, and the practical duties and difficulties of the teacher.

Of this class of periodicals the *Massachusetts Teacher*, the organ of the State Teachers' Association, now issuing its twenty-fifth volume; the *Rhode Island Schoolmaster*, and the *Illinois Teacher*, and the *Indiana School Journal* started in 1855; the *Pennsylvania School Journal*, for twenty years conducted by Hon. T. H. Burroughs, have each maintained a high and special reputation.

There are several educational journals of a less local character devoting themselves to the discussion of the principles of education, to the various methods of teaching and discipline, to educational biography, the careful criticism of text-books, and to the current progress of education. Among the best, as well as the most widely circulated of these are the *American Educational Monthly*, published in New York city since 1862, the *College Courant*, published in New Haven since 1865, and the *National Teacher*, edited and published by E. E. White, Columbus, Ohio.

Most of the leading publishers of school text-books issue, monthly, quarterly, or semi-annual periodicals, containing some educational matter, and a great deal commendatory of their own books. The daily and weekly secular, literary, and religious journals have also their educational departments, and in the aggregate do much for the advancement of schools and education. There were in 1872 forty-five periodicals in the United States, monthly and quarterly, devoted exclusively to education, besides a considerable number—college periodicals, literary and educational papers and magazines, reviews, &c.,—which were partially occupied with educational matter. This is a rapid growth since a period of forty years ago, when a single educational periodical found but a scanty and precarious support.

The annual School Reports, national, state, city and town, it is estimated, constitute a library of over 100 volumes, of 600 pages octavo, of ordinary long primer type.

The earliest official and legislative reports on the condition of public schools were issued in New York in 1812, and in Maryland in 1826. The former did not attract much attention until issued by Azariah Flagg, and John A. Dix, who, as Secretary of State, were from 1827 to 1836 *ex officio* superintendents of public schools. But a different character was given to this class of documents when Hon. Horace Mann became Secretary of the Board of Education for Massachusetts, in 1837.

The cause of education has received a new impetus since the close of the war, and especially since 1867, when a Commissioner of Education was provided for by Congress, originally independent, but subsequently as a bureau of the Department of the Interior. Its first commissioner was Hon. Henry Barnard, who was succeeded in 1870 by Gen. John Eaton, Jr. The Department has issued four annual reports, beside a supplementary one on education in the cities and the District of Columbia. These reports contain a vast amount of information in regard to the educational progress of the United States from year to year, but their statistics of colleges and institutions of secondary instruction being collected as unofficial answers to circulars are not always full and reliable, and give, in some instances, an undue prominence to institutions of recent origin and of mainly prospective usefulness.

* Volume XXIV (for 1873) contains a General Index, based on the Special Index of each volume, as well as on the Special Treatises which have been made up out of the separate chapters and articles scattered through the entire series.

EDUCATIONAL PERIODICALS IN THE UNITED STATES.

Please assist in perfecting this Catalogue of
EDUCATIONAL PERIODICALS.

First		Last		PRINCIPAL TITLE. PLACE OF PUBLICATION. FIRST EDITOR.
Year.	Month.	Ye'r.	Vol.	
1811	Jan'y.	1811	I.	Juvenile Monitor, or Educational Magazine. <i>New York.</i> A. Picket.
1812	.....	.....	.....	Academical Herald and Journal of Education, (Prospectus.) <i>York, Pa.</i> S. Bacon.
1818	Feb.	1819	I.	The Academician. <i>New York.</i> A. and J. W. Picket.
1824	.....	1830	VII.	The Sunday-School Magazine. <i>Philadelphia.</i> American Sunday School Union.
1826	Jan'y.	1830	V.	The American Journal of Education. <i>Boston.</i> W. Russell.
1827	July.	1843	XV.	Quar. Register and Jour. of Am. Educ. Soc. <i>Boston.</i> E. Cornelius and B. B. Edwards
1827	"	1832	IV.	Quarterly Journal of Am. Educ. Society. <i>Boston.</i> E. Cornelius and B. B. Edwards.
1828	April.	.....	.....	Teacher's Guide and Parent's Assistant. (New Series.) <i>Boston.</i> S. G. Goodrich.
1829	"	1829	I.	The School Magazine. <i>Boston.</i> W. C. Woodbridge.
1830	.....	.....	.....	The Education Reporter. <i>Boston.</i> A. Rand.
1830	Jan'y.	1830	I.	The Belles Lettres Gazette. <i>Philadelphia.</i> J. Brown.
1830	June.	1849	XX.	The Sunday-School Journal. (Gaz. of Educ.) <i>Phila. and N. Y.</i> Am. S. S. Union.
1831	.....	.....	.....	Journal of Instruction. <i>Philadelphia.</i> Philadelphia Association of Teachers.
1831	July.	1831	I.	The Academic Pioneer. <i>Cincinnati.</i> Western Academic Institute.
1831	Aug.	1839	IX.	American Annals of Education. <i>Boston.</i> W. C. Woodbridge.
1831	Dec.	1831	I.	Reporter and Journal of Education. <i>Boston.</i> W. C. Woodbridge.
1832	Jan'y.	1833	II.	Juvenile Rambler, or Family and School Journal. <i>Boston.</i>
1832	April.	.....	.....	Eclectic Institute Journal of Education. <i>Lexington, Ky.</i> B. O. Peers.
1832	July.	1832	I.	Family Lyceum. <i>Boston.</i> J. Holbrook.
1832	.....	.....	.....	Journal of Humanity. <i>Boston.</i>
1833	June.	.....	.....	Southern Journal of Education. <i>Georgia.</i>
1834	.....	.....	.....	The Inciter. <i>Lancaster, Penn.</i>
1834	.....	.....	.....	The Schoolmaster and Academic Journal. <i>Oxford, Ohio.</i>
1835	Jan'y.	1835	I.	Monthly Journal of Education. <i>Philadelphia.</i> E. C. Wines.
1836	Jan'y.	1840	V.	Common School Assistant. <i>New York.</i> J. O. Taylor.
1836	"	1836	I.	Schoolmaster and Advocate of Education. <i>Princeton.</i> E. C. Wines.
1837	.....	1841	V.	The Common School Advocate. <i>Cincinnati.</i>
1837	Jan'y.	.....	.....	The Common School Advocate. <i>Madison, Ind.</i> W. Twining.
1837	"	1837	I.	The Common School Advocate. <i>Jacksonville, Ill.</i>
1837	"	.....	.....	The Universal Educator. <i>Cincinnati.</i>
1837	Mar.	1837	I.	The Western Academician. <i>Cincinnati.</i> John W. Picket.
1838	Jan'y.	1841	IV.	Youth's Cabinet. <i>New York and Boston.</i> N. Southard.
1838	Mar.	1838	I.	Ohio Common School Director. <i>Columbus, O.</i> S. Lewis.
1838	"	1840	II.	Journal of Education. <i>Detroit.</i> J. D. Pierce.
1838	April.	1838	I.	The Pestalozzian. <i>Akron, O.</i> E. L. Sawtell, and H. K. Smith.
1838	"	1839	II.	The Educator. <i>Easton, Penn.</i> Faculty of Lafayette College.
1838	July.	1838	I.	Educational Disseminator. <i>Cincinnati, O.</i> A. Picket, Sen., and J. W. Picket, M. D
*1838	Aug.	1866	XXI.	Connecticut Common School Journal. <i>Hartford, Ct.</i> H. Barnard.
1839	Jan'y.	1852	XIV.	Massachusetts Common School Journal. <i>Boston.</i> H. Mann.
1839	"	1842	IV.	Journal of Christian Education. <i>New York.</i> Rev. B. O. Peers.
1839	Jan'y.	.....	.....	Family and School Visitor. <i>Bangor and Portland, Me.</i> Cyril Pearl.
1840	Mar.	1852	XII.	District School Journal of the State of New York. <i>Geneva and Albany.</i> F. Dwight.
1841	May.	1841	I.	Illinois Common School Advocate. <i>Springfield, Ill.</i> State Education Society.
1842	Jan'y.	1842	I.	Self-Instructor and Journal of the Universal Lyceum. <i>New York.</i> J. Holbrook.
1842	April.	1842	I.	Western School Journal. <i>Covington, Ky.</i> O. S. Leavitt.
1843	Jan'y.	1843	I.	The University Magazine. <i>Philadelphia.</i> University of Pennsylvania.
1843	Oct.	1843	I.	Southern Educational Journal. <i>Mobile, Ala.</i> F. H. Brooks.
1844	Jan'y.	1844	I.	Common School Journal. <i>Philadelphia.</i> J. S. Hart.
1844	"	1846	III.	The School Herald. <i>South Boston, Mass.</i> City Point School.
1844	Feb.	.....	.....	Teachers and Pupil's Advocate. <i>Philadelphia.</i> E. Rea.
*1845	Sept.	1848	V.	Teacher's Advocate and Jour. of Educ. <i>New York and Syracuse.</i> State Teach. Assoc
1845	Nov.	1849	III.	Journal of the Rhode Island Institute of Instruction. <i>Providence.</i> H. Barnard.
1846	Jan'y.	1849	IV.	Practical Educator and Journal of Health. <i>Boston.</i> W. M. Cornell.
1846	July.	1846	I.	Essex County Constellation. <i>Newburyport and Salem.</i> J. S. Foster.
1846	"	1849	IV.	Ohio School Journal. <i>Kirtland and Columbus, O.</i> A. D. Lord.
1846	July.	1846	I.	The Monthly Educator. <i>Rochester, N. Y.</i> Parsons E. Day.
1846	Oct.	1851	V.	The School Friend. <i>Cincinnati, O.</i> W. B. Smith & Co.
1846	"	1848	III.	The Free School Clarion. <i>Massillon, O.</i> W. Bowen.
1846	"	1846	I.	Common School Advocate. <i>Indianapolis.</i> H. F. West.
1846	Nov.	1855	XI.	The Student (and Young Tutor.) <i>New York.</i> J. S. Denman.
1847	Jan'y.	1848	II.	Connecticut School Manual. <i>Hartford, Ct.</i> M. Richardson.
1847	"	1847	I.	Michigan School Journal. <i>Jackson, Mich.</i> M. M. Baldwin.
1847	"	.....	.....	Educational Magazine and Review. (Prospectus.) <i>Boston.</i> J. W. Ingraham.
1847	Feb.	1847	I.	American Journal of Education. <i>New York.</i> J. McKeen.
1847	"	1847	I.	Public School Advocate. <i>Houston, Texas.</i> Texas Literary Institute.
1847	May.	1849	III.	School Journal and Vermont Agriculturist. <i>Windsor, Vt.</i> Bishop and Tracy.
1847	"	1848	II.	Western School Journal. <i>Cincinnati.</i> Moore & Co.
1847	July.	1848	II.	Ever Onward. Wright's Paper. <i>Philadelphia.</i> A. E. Wright.
1847	Nov.	1849	III.	North-Western Educator. <i>Chicago.</i> J. L. Enos.
1847	"	1847	I.	The Radix, or Virginia Public School Advocate. <i>Richmond, Va.</i> S. A. Jewett.
1848	Jan'y.	1849	II.	Southern Journal of Education. <i>Knoxville, Tenn.</i> S. A. Jewett.
1848	"	1849	II.	Wright's Casket. <i>Philadelphia.</i> A. E. Wright.
*1848	"	1867	XX.	The Massachusetts Teacher. <i>Boston.</i> Massachusetts Teachers' Association.
1848	April.	1848	I.	Scholar's Penny Gazette. <i>Boston.</i> A. Fitz and J. L. Forrest.
1848	May.	1848	I.	Maine Common School Advocate. <i>Belfast, Me.</i> W. G. Crosby.
1849	Jan'y.	1849	I.	Rhode Island Practical Teacher. <i>Providence.</i> W. S. Baker.
1849	.....	.....	.....	South-Western School Journal. <i>Knoxville, Tenn.</i> R. McAnally and T. McIntyre
1850	Jan'y.	1851	II.	Ohio Teacher (and Western Review.) <i>Cincinnati and Columbus, O.</i> T. Rainey.

EDUCATIONAL PERIODICALS IN THE UNITED STATES.

First		Last		PRINCIPAL TITLE. PLACE OF PUBLICATION. FIRST EDITOR.
Year.	Month.	Ye'r.	Vol.	
1850	Mar.	1850	I.	North-Western Journal of Education. <i>Madison, Wisc.</i> O. M. Conover.
1850	July.	1850	I.	Free School Clarion. <i>Syracuse, N. Y.</i> W. L. Crandal.
1850	Oct.	1853	IV.	Journal of Education. <i>Bath, Me.</i> J. T. Huston.
1850	Nov.	1850	I.	The Teacher's Magazine. <i>Pittsburg, Penn.</i> J. J. Buchanan.
1851	Jan'y.	1851	I.	Public School Advocate. <i>Columbus, O.</i> A. D. Lord.
1852	"	1852	I.	American Educationist and Western School Journal. <i>Cleveland, O.</i> B. K. Maltby.
1852	"	1859	VIII.	Ohio Jour. of Education, (continued as Oh. Educ. Monthly.) <i>Columbus, O.</i> A. D. Lord
1852	"	1853	II.	Rhode Island Educational Magazine. <i>Providence.</i> E. R. Potter.
*1852	"	1867	XV.	Pennsylvania School Journal. <i>Philadelphia.</i> T. H. Burroughs.
1852	Feb.	1852	I.	American Educationist and Common School Journal. <i>Indianapolis.</i> A. D. Wright.
*1852	Oct.	1867	XV.	New York Teacher. <i>Albany.</i> State Teachers' Association.
1853	Jan'y.	1854	II.	Southern School Journal. <i>Columbus, Ga.</i> T. F. Scott.
1853	"	1853	II.	District School (or Iowa) Journal of Education. <i>Dubuque, Iowa.</i> R. R. Gilbert
1853	"	1854	I.	Teacher, and Western Educational Magazine. <i>St. Louis, Mo.</i> J. H. Tice.
1853	Nov.	1853	I.	The Self-Instructor. <i>Charleston, S. C.</i> R. W. Habersham.
1853	"	.....	.....	The Union School. <i>Bridgeport, Penn.</i> L. F. Parker.
1853	.....	.....	.....	The Guardian. <i>Columbia, Tenn.</i> F. G. Smith.
.....	.....	1854	.....	Literary Standard and State Educational Journal. <i>New Jersey.</i>
*1854	Jan'y.	1861	VIII.	Michigan Journal of Education. <i>Detroit.</i> State Teachers' Association.
1854	"	1854	I.	Western Teachers' Advocate. <i>Louisville, Ky.</i> E. Cooper.
1854	"	.....	.....	Schuylkill County School Journal. <i>Pottsville, Penn.</i> Teachers of Public Schools.
1854	.....	.....	.....	The Teacher's Voice. <i>Vermont.</i>
1854	.....	.....	.....	The Popular Educator. <i>New York.</i> A. Montgomery.
1854	.....	.....	.....	The Indiana Journal of Education. <i>J. A. Gilkey.</i>
1855	Jan'y.	1855	I.	Journal of Education. <i>Washington, D. C.</i> J. D. B. De Bow.
1855	"	1855	I.	The Teachers' Institute. <i>Brownsville, Penn.</i> L. F. Parker.
*1855	Feb.	1867	XIII.	The Illinois Teacher. <i>Bloomington, Ill.</i> State Teachers' Institute.
*1855	Mar.	1867	XIII.	The Rhode Island Schoolmaster. <i>Providence.</i> State Teachers' Association.
1855	.....	.....	.....	The Wisconsin Educational Journal. <i>Janesville, Wis.</i> G. S. Dodge.
1855	Aug.	1867	XVII.	Barnard's American Journal of Education. <i>Hartford, Ct.</i> H. Barnard.
1855	Oct.	1855	I.	The Pupil. <i>Boston.</i> A. Fitz.
1855	Nov.	1862	XI.	The Student and Schoolmate. <i>New York.</i> N. A. Calkins.
1856	Jan'y.	1857	II.	American Journal of Education and College Review. <i>New York.</i> A. Peters.
1856	"	1862	VII.	North-Western Home and School Journal. <i>Chicago, Ill.</i> Eberhard and Law.
1856	"	1857	II.	South-Western School Journal. <i>Louisville, Ky.</i> J. H. Heywood and N. Butler.
*1856	"	1867	XII.	Indiana School Journal. <i>Indianapolis.</i> State Teachers' Association.
1856	Feb.	.....	.....	Western College Intelligencer. <i>New York.</i> Soc'y for Coll. and Theol. Educ. at West
*1856	Mar.	1866	X.	Wisconsin Journal of Education. <i>Racine, Wis.</i> State Teachers' Association.
1856	Sept.	1856	I.	North Carolina Common School Journal. <i>Greensboro, N. C.</i> C. H. Wiley.
1856	Oct.	1864	IX.	Clark's School Visitor. <i>Philadelphia.</i> S. Clark.
1857	Jan'y.	1861	VI.	Georgia Educational Journal. <i>Forsyth, Ga.</i> Wilkes and Marshall.
1857	"	1857	I.	Alabama Educational Journal. <i>Montgomery, Ala.</i> W. F. Perry.
*1857	"	1862	VI.	New Hampshire Journal of Education. <i>Manchester, N. H.</i> W. L. Gage.
1857	"	1857	I.	Missouri Journal of Education. <i>St. Louis.</i> J. Divoll.
1857	"	1858	III.	The Voice of Iowa. <i>Cedar Rapids, Iowa.</i> J. L. Enos.
*1857	"	1857	I.	The School Visitor. <i>Knoxville, O.</i> A. Clarke.
1857	Mar.	1863	VII.	Educational Herald (and Musical Monthly.) <i>New York.</i> O. S. St. John.
1857	July.	1859	III.	The School Journal. <i>Philadelphia.</i> G. N. Townsend.
1857	Sept.	1857	I.	The Normal. <i>Lebanon, O.</i> J. Holbrook.
*1858	Jan'y.	1859	II.	North Carolina Journal of Education. <i>Greensboro, N. C.</i> J. D. Campbell.
1858	"	1858	I.	Sargent's School Monthly. <i>Boston.</i> E. Sargent.
1858	May.	1860	III.	The Missouri Educator. <i>St. Louis.</i> T. J. Henderson.
1858	June.	1860	III.	The Maine Teacher. <i>Portland, Me.</i> M. H. Dunnell.
1858	Sept.	.....	.....	Home and School Journal. <i>New York.</i> M. Willson.
*1858	Oct.	1858	I.	Alabama Educational Journal. <i>Montgomery, Ala.</i> N. K. Davis.
1858	Nov.	1858	I.	The Teachers' Journal. <i>Allentown, Penn.</i> R. W. McAlpine.
*1859	April.	1866	VIII.	Vermont School Journal. <i>Montpelier, Vt.</i> State Teachers' Association.
1859	May.	.....	.....	Literary Advert. and Pub. School Advocate. <i>Iowa City and Davenport.</i> S. S. Howe.
1859	"	1860	II.	Educator and Educational Record. <i>Pittsburg, Penn.</i> S. Findley.
1859	Aug.	1860	II.	The Southern Teacher. <i>Montgomery, Ala.</i> W. S. Barton.
1859	"	1860	II.	Iowa School Journal. <i>Des Moines, Iowa.</i> A. J. Stevens.
*1859	Oct.	1867	VIII.	Iowa Instructor and School Journal. <i>Davenport, Iowa.</i> State Teachers' Association.
1859	Nov.	1859	I.	Educational Monthly. <i>Louisville, Ky.</i> E. A. Holyoke.
1859	Aug.	.....	.....	Tennessee Journal of Education. <i>Richmond, Tenn.</i> C. L. Randolph.
1859	.....	.....	.....	The Educator. <i>Baltimore, Md.</i> J. N. McJilton.
1860	Jan'y.	1861	II.	The Normal. <i>Kocomo, Ind.</i> J. Baldwin.
1860	"	1861	II.	Journal of Progress. <i>Cincinnati, O.</i> E. Longley.
*1860	"	1867	VIII.	Ohio Educ. Monthly. (Old Series, Vol. XV., &c.) <i>Columbus, O.</i> State Teach. Assoc.
1860	"	1861	II.	The Undergraduate, or University Quarterly. <i>New Haven.</i>
1860	"	1860	I.	Educational Repository. <i>Atlanta, Ga.</i> J. Knowles.
1860	.....	.....	.....	Southern Home Journal. <i>Montgomery, Ala.</i> H. H. Smith.
1860	.....	.....	.....	The National Educator. <i>Pittsburg, Penn.</i> R. Curry.
1860	.....	.....	.....	The Aurora. <i>Memphis, Tenn.</i>
1861	.....	.....	.....	The Missouri Teacher. <i>St. Louis.</i>
*1863	July.	1867	V.	The California Teacher. <i>San Francisco.</i> State Teachers' Institute.
*1864	April.	1864	I.	School and Family Visitor. <i>Louisville, Ky.</i> W. N. Hailman.
1864	Jan'y.	1867	IV.	American Educational Monthly. <i>New York.</i> Schermerhorn, Bancroft & Co.
*1864	Jan'y.	1867	IV.	Kansas Educational Journal. <i>Leavenworth.</i> H. D. McCarty.
1864	Aug.	1864	.....	Maryland School Journal. <i>Hagerstown.</i> J. P. Harmon & Co.
1866	Dec.	1867	I.	Maine Normal. <i>Farmington, Maine.</i> George M. Gage.
1867	June.	1867	I.	Minnesota Teacher. <i>St. Paul, Minn.</i> W. W. Payne.
1867	Sept.	1867	I.	School Monthly. <i>Milwaukee, Wis.</i> City Teachers' Association.

ANALYSIS OF MR. MANN'S REPORTS AS SECRETARY OF THE MASSACHUSETTS BOARD OF EDUCATION.

IN his FIRST REPORT, submitted less than five months after his acceptance of the post of Secretary of the Board of Education, Mr. Mann presented a comprehensive survey of the condition of the public schools of the state, under four heads; viz., I. The situation, construction, condition, and number of the school-houses; to which he devoted a SUPPLEMENTARY REPORT, with a free exposition of his views in regard to ventilation and warming, size, desks, seats, location of school-houses, light, windows, yards or playgrounds, and the duty of instructors in regard to these structures. These were accompanied with two plans of the interior of school-houses. II. *The manner in which the school committees performed their duties.* Under this head he specified their neglect in regard to the time of examining teachers, the character of the examinations, the hesitation in rejecting incompetent candidates; their neglect of the law requiring them to secure uniformity of school books, and furnishing them to the scholars at the expense of the town, when the parents neglected to furnish them—their negligence in not enforcing attendance, regularity, and punctuality, and in not visiting the schools as the law demanded. The causes of this neglect, want of compensation, and consequently of penalty for non-performance of duties, the hostility often induced by a faithful performance of duty, and the ingratitude with which their services were treated, thus preventing the best men from accepting the office. Remedies for these evils were also suggested; viz., compensation for services, penalties for neglect, and an annual report by each committee. III. *Apathy on the part of the community* in relation to schools. This is of two kinds. The apathy of those indifferent to all education, which, in the influx of an ignorant and degraded population, would naturally increase; and apathy toward the public or free schools, on the part of those who considered them as not supplying the education needed, and hence sought to procure that education for their children, in academies and private schools. Under this head, he propounded the true theory of public schools, the measures necessary to secure their efficiency, and the objections to private schools as means of popular education. IV. *Competency of Teachers.* The obstacles to this competency were considered; viz., low compensation, preventing its being followed as a profession; the low standard of attainment required; and the ulterior objects of those who engaged in it temporarily. With a few remarks concerning the necessity of school registers, apparatus, &c., and the best time for the election of school officers, the report closed.

Mr. Mann's SECOND REPORT, after briefly reviewing the evidences of progress in Nantucket, and some other large towns, during the previous year, and the delinquencies of others, is mainly occupied with the discussion of the importance of better instruction in language, in the public schools, and the best methods of effecting it. The existing methods of instruction in spelling and reading are described, their defects noted, and the measures proposed for remedying them mentioned. The teaching of the young child words before letters (a plan previously advocated by Dr. Gallaudet,) is strongly recommended, and cogent reasons given for its adoption. The faulty character of the selections in school reading-books, are noticed, their want of connection and interest to the pupil, the utter unintelligibility of many of them; spellers and definers discarded as suitable means of giving children ideas of the meaning of words; dictionaries for study, regarded

as better, but still exceptional—the preparation of readers, detailing in simple and interesting style, events of home life—popular treatises on natural science—voyages and travels and, as the vocabulary of the pupil increases, and his perceptions of matters of argument and reason increases, the advance to the discussion of higher topics may be encouraged. Compositions, translations, and paraphrases, should be required early, and generally should be of a descriptive rather than a didactic character. The effects of this method of instruction are portrayed in the vivid language of the secretary—its elevation of the taste, refinement of the manners, and the preparation which it would give the community for the enjoyment of a higher and purer literature. With a brief discussion of the question whether the Board of Education should recommend a series of school books, and some incidental allusions to matters of detail, the report closes.

Mr. Mann commences his THIRD REPORT with congratulations to the Board of Education, on the evidences of progress and improvement evinced by the school returns, and other facts which he lays before them; and, after stating briefly the efforts made for the instruction of children on the lines of railroad then in course of construction, and the number and character of the violations of the laws relative to the employment of children in manufactories, without giving them opportunities of education, he proceeds to discuss, in all its bearings, the necessity of libraries in school districts. He gives at length, statistics, carefully collected, relative to the number, character, and accessibility of the existing libraries in the state, showing that there were in the state, including college, society, theological, and other public libraries, some 300,000 volumes; that the use of them was confined to not over 100,000 persons, while 600,000 had no access to them—that one hundred towns of the state had no public libraries of any description; that of the books in the libraries, very few, not over one-twentieth, were adapted to the use of children, or young persons; that many of them were out of date, old, and incorrect; that the greater part of those in circulation were works of fiction, and many of them of injurious or immoral tendency, while a few were composed mainly of historical and scientific works. Other facts are stated, showing the prevalent tendency in the popular mind, to read only, or mainly, works of fiction and amusement. The mental and moral influence of various descriptions of reading, is next fully discussed. The effect of reading, in the formation and development of character illustrated. Statistics are next given of the lyceum and other lectures, maintained in the state, their advantages and disadvantages are shown, and the impossibility of their acting as substitutes for libraries, in the work of public instruction, fully demonstrated. The reasons why school district libraries should be established, and at the expense of the state, in part, are forcibly stated—the density of the population, the necessity for high education to sustain such a population—the advantages of the subdivision of districts, in carrying libraries to every man's neighborhood—the inability of the small districts to compete, unaided, with the larger, in supplying themselves with libraries, yet their greater need of them, from the brevity of their period of school sessions, are all urged. The character of the books necessary for such libraries, is then dwelt upon; natural science, biography, well-written history, agricultural and popular scientific works—works on physiology and hygiene, on morals and their applications—and, when practicable, biographical dictionaries, encyclopedias, and other works of a similar character, as reference books, are specified. The general demand for libraries, throughout the state, is noticed in conclusion.

In his **FOURTH REPORT**, Mr. Mann, after a brief general review of the gratifying progress of the state, in educational matters, in the three years preceding, and a portrayal of the material advantages which would ensue from the publication and circulation of the abstracts of the school reports, enters upon a full discussion of the topics suggested by these reports, prefacing it by a brief account of the principles on which schools have been supported since 1647, in Massachusetts.

The topics treated are the following : school districts—the evils of their minute subdivision—the remedies suggested are the reunion of small districts, the placing the whole management of the schools, where it was placed originally, in the hands of the towns, and the organization of union schools for the older scholars. The last measure is urged on the grounds of the economy of the plan, and the advantage gained in management and discipline ; the condition and repair of school-houses is next considered, and a tax suggested, once in three or five years, to furnish means to the committee to keep the school-house in good repair. The inefficiency and unproductiveness of expenditure for public instruction, is next dwelt upon—the statistics of private school expenditure for instruction, in the branches taught in the public schools, given ; its wastefulness shown ; the greater advantages which would result from the expenditure of the same sum on the public schools, demonstrated ; and the moral evils which the present course causes, exhibited. The suggestions of the reports in regard to *teachers*, are then considered. The advantage of increasing the number of female teachers, discussed ; the deficiencies in the qualifications of those examined, commented upon ; and the necessity of their possessing a thorough knowledge of common school studies, aptness to teach, ability in management and discipline, good manners, and unexceptionable morals, urged. The necessity of strict uniformity in school books, is demonstrated ; the advantages arising from the introduction of school apparatus and school libraries, mentioned ; constancy and punctuality of attendance urged, on the grounds of the monstrous loss and waste of time and money which are involved in irregularity and absence ; and the fearful deprivation of the best hours of life to the young, a loss not to be repaired. The enforcement of regular and punctual attendance is advised, by the efforts of the teachers to attach children to the school, by the use of the register, the notification of parents, the example of the teacher, and appeals to parents and guardians to encourage it. The duties of superintending or town committees, and of prudential committees, are briefly considered ; manifestation of parental interest in the schools, the evils of forcible breaking up the schools, and of absences from final examinations, referred to ; and the report closes with a general retrospect.

In his **FIFTH REPORT**, Mr. Mann, after his usual resumé of the results attained the previous year, and a few remarks on the advantage of increasing the number of meetings, and multiplying the points at which conventions of the friends of education should assemble, and some passing notice of the improvement in school districts, school-houses, appropriations of money by the towns, amount and regularity of attendance, length of schools, and uniformity of school books, discusses at length the best methods of ascertaining the qualifications of teachers for their work, a duty devolving, by law, on the town or superintending committees. Under the head of moral character, he recommends, where the candidate is not previously known to the committee, strict scrutiny of his credentials, and a registry of the names of those who recommend them, and denounces, in the strongest terms, those who would be guilty of furnishing recommendations to persons

morally disqualified for the high calling of teachers of youth. Passing over the matter of the scholarship of the teacher, which can generally be ascertained without much difficulty, he next considers the best method of ascertaining the ability of the teacher to impart knowledge, and his capacity for managing and governing a school—points of great importance, but which many of the school committees had declared impossible to be ascertained. In regard to the first, he recommends that the candidate should be questioned on his method of using the blackboard, his mode of teaching reading, whether he requires the children to understand the meaning of the words, and the sense of the passage read, his instruction in pronunciation, his time and method of teaching the arithmetical signs, his mode of instructing in geography, grammar, and arithmetic, his practice in regard to reviews, alternations of studies, &c. In relation to his ability to manage and govern a school, he suggests inquiries into his methods of preserving order and quiet in his school; his views relative to the necessity and frequency of corporeal punishment; his practice in exciting emulation by prizes, &c. He also suggests that inquiry should be made in regard to the special preparation made by the candidate for teaching, what instruction he has received on the art of teaching, either in normal schools, or from books or teachers' periodicals. Some further suggestions are thus made relative to the details of the examination of teachers.

The two Shaker societies had the previous year refused to allow their teachers to be examined, or their schools visited. The secretary shows, with great force, the absurdity of their course, and then passes to illustrate, by means of statistics and otherwise, the inequality in the means of education in different towns in the state. The facts being stated, he demonstrates by irrefragible arguments, and by the testimony of several of the largest employers of labor in the commonwealth, the difference which this inequality of education makes in the productive value of the labor of the educated and uneducated. He thus shows, conclusively, that the state and individuals would be very greatly the gainers, in a pecuniary sense, by the universal diffusion of education. That a person with a good common school education will, in the same business, ordinarily earn fifty per cent. more than one without education—and this with less injury or expense of tools or machinery; and that such persons usually live better, and are better members of society. The argument is an admirable one.

In his SIXTH REPORT, Mr. Mann passes in review the progress of the preceding year, in the school appropriations, the attendance, vacations in the annual schools, employment of female teachers, compensation of teachers, reports of school committees, breaking up of schools, qualifications of teachers, dismissal of incompetent teachers, school registers, and school district libraries; and proceeds, under the head of *selection of studies*, to urge the importance of the introduction of the study of physiology into the schools. To do this effectually, he goes at considerable length into a statement and illustration of the laws of life and health, and the daily and hourly violations of them by the masses. He also submits the opinions of eminent physicians in regard to the importance of the study of physiology and hygiene to the young, and enforces these opinions by further argument and illustration. This portion of the report furnishes, in itself, an admirable essay on physiology and hygiene, and is well worthy of perusal and study.

Mr. Mann, in his SEVENTH REPORT, after his customary review of the condition of the schools of the state, proceeds to give an account of the observations made

in his European tour of the preceding year, in which he had visited a large number of schools in England, Ireland, Scotland, Prussia, Germany, Holland, Belgium, and France. He visited not only the public schools of these countries, but their institutions for the blind, deaf mutes, orphans, vagrants, and juvenile offenders, also. Leaving these topics, however, Mr. Mann comes again upon his own appropriate ground, and considers the fearful evils of a partial system of education, as exhibited in England, giving numerous facts demonstrating the great inequality of the opportunities of education, the disproportion in the salaries of teachers, the vile and often degrading and obscene books used in the lowest class of schools, and the necessity of a general supervisory power on the subject of education. The school-houses, with the exception of some of the palaces devoted to private or endowed schools in England, he regarded as decidedly inferior to those of Massachusetts, in convenience and in ventilation. The reading-books, especially in Germany, were better than ours, as being more practical in their character. There was but little more apparatus there than here. The blackboard was universally used, and for more purposes than here. In some schools he found the standard weights and measures of the country—a valuable aid to the understanding of the comparative quantities contained in them. In some of the schools, as in Holland, there were cards containing fac-similes of the coins of the realm; reading boards or frames (since introduced here,) were also found there. Models of implements of utility, collections of shells, minerals, seeds, woods, &c., and occasionally paintings of considerable value; and, in nearly all, tasteful though cheap engravings and maps adorned the walls. The Lancasterian schools he found upon the wane, a “more excellent way” having been substituted for them. He was much pleased with the mental activity displayed in the Scotch schools, and with the thoroughness of their training in reading, and in exercises in language, but thought there was too much harshness, and too strong appeals to emulation in their management.

But the Prussian schools were, in his view, superior to any others he saw in Europe. After reviewing briefly the orphan and vagrant schools of Potsdam, Halle, and Horn, giving to the apostolic Wichern his due meed of praise, he proceeds to treat of the classification of the Prussian schools, the method of teaching in the primary classes; and here he urges with great force the advantage of the system adopted there of teaching words before letters. He also suggests that the phonic or *lautir* method of spelling, which he found in use in Prussia, might with advantage be adopted here. After a brief reference to the way in which reading is taught in the higher classes, he proceeds to speak of their methods of instruction in arithmetic and mathematics, in grammar and composition. In writing and drawing, in geography, by the sketching of outlines on the blackboard; in thinking exercises, knowledge of nature, the world, and society; alluding, under these heads, to the careful and thorough preparation of the teachers for their work of instruction, and the entire absence of text-books, in instruction in Bible history and music, which he found universally taught in Prussia. He next gives an account of the seminaries for teachers, the preliminary course in which their eligibility to become members of the seminaries for teachers was decided, the course of instruction, its extreme thoroughness, and the high moral and religious tone of the instruction. In reviewing the period spent in Prussia and Saxony, he states these facts, viz., that he never saw a teacher hearing a lesson with a book in his hand; he never saw a teacher sitting; and he never saw

a child either arraigned for punishment, undergoing it, or having recently been punished. He does not intend to imply, by the last remark, that corporeal punishment was entirely discarded, but that it was very seldom necessary to resort to it. The earnestness and interest of the teachers in their work, their evidently strong affection for their pupils, and the reciprocal affection engendered by this, were generally sufficient to produce obedience. Educational journals he found abundant, and well sustained. The school inspectors were men of high attainments, and qualified to fill the highest stations. School attendance was made compulsory by law, the parent being imprisoned if he neglected to send his child, after repeated warnings—but so well were the parents convinced of its advantages, that it was seldom necessary to appeal to the law. Mr. Mann next gives a brief account of the higher schools (the real and burger schools,) of Prussia and Saxony; and assigns the reasons why, though the young are thus educated, yet the nation is in a condition of such apathy.

He then proceeds to review some points, in the schools of other countries which he visited. Corporeal punishment was not used in Holland. In Scotland and England, on the contrary, it was in full force; and, in some of the proprietary and endowed schools of England, solitary confinement still prevailed. In France, he found the system of *surveillance* in force in the boarding-schools and colleges—the watching being as close as in a prison. Emulation is an incentive in the English and Scotch schools, of all grades; and is allowed, though not extensively practiced, in the Prussian and Saxon schools. Its application to religious instruction and attainment, Mr. Mann thinks highly objectionable. The religious instruction, both in Great Britain and on the continent, is for the most part sectarian—a measure fraught with many and great evils, not the least of which are its political results. Mr. Mann closes with some eloquent reflections on the reasons we have for thankfulness that our lot was not cast among the effete, worn-out nations of Europe; but that here civilization could have new opportunities of trial, unembarrassed by prescriptive rights, hereditary nobility, an absolute government, feudalism, or pauperism; and sums up with this great truth, that “*In a republic, ignorance is a crime; and that private immorality is not less an opprobrium to the state than it is guilt in the perpetrator.*”

In his EIGHTH REPORT, after giving his usual statistics of the advance in the cause of education in the state, and a few remarks on the increasing employment of female teachers, the enlarged amount of town appropriations, the gratifying increase in the number of school libraries, and the painful necessity of breaking up schools from the incompetency of teachers, he advocates, at some length, the organization of teachers' institutes (which had already been established in New York,) and recommends an appropriation for the purpose; he also notices, with approbation, the organization of county and town teachers' associations, suggests that school registers should hereafter be provided, in book form; specifies the results of an inquiry into the number of towns in which the Bible is not used in the schools; and notices the causes which led to the removal of one of the state normal schools from Lexington to West Newton. He then proceeds to discuss the question of the *distribution of the school moneys among the districts*, giving statistics of the methods heretofore adopted, which were exceedingly various; and, without entering into details, urging the view that the distribution should be made in such a way as to give equal advantages to each district. This does not necessarily require an equal expenditure in each; for one school may be large

and require one or more assistants, another may be small and require but one teacher; one may be composed mostly of large scholars and require a male teacher, another of small scholars and be benefited by having a good female teacher. Connected with this subject is the question of the power of the towns to raise money for school purposes, beyond the minimum required by the statute. Mr. Mann defends the liberal construction of the statute; not only from motives of humanity and philanthropy, but from the evident design of the law-makers, as demonstrated from other enactments bearing upon the question. Another point considered in the report, is the *teaching vocal music* in the schools. He states that about five hundred, or nearly one-sixth of the schools in the commonwealth have already adopted the practice of singing in school; and urges the importance of its universal adoption, from the natural taste for it in all classes, from its refining, softening, and purifying power, from the excellent results which it has produced in other countries, and in our own wherever it has been introduced, for its promotion of health, as furnishing the means of intellectual exercises, and for its social and moral influence. He quotes also the opinions of Dr. Chalmers, and of Napoleon, in regard to the power of music in controlling men. Having thus demonstrated the desirableness of this addition to school instruction, he proceeds to consider the means of accomplishing the object. He suggests that the ability to sing should, as far as possible, be made one of the qualifications of the teacher; and that, where this is impracticable, in the larger towns, a teacher should be hired, and in the smaller towns, benevolent persons, accomplished in the art, should volunteer to bestow instruction.

The NINTH REPORT commences with some statistics of great interest; one table, showing that there were but twenty-two towns in the commonwealth which had not availed themselves of the state provision for school libraries; another showing the progress of the school fund for ten years; a third giving the amount raised by the towns for school purposes, showing that the expenditure for schools, per annum, was more than one dollar for every inhabitant. The usual statistics in regard to length of schools, attendance, &c., are given; and the necessity of enforcing a more full and punctual attendance, urged with great earnestness and eloquence. The compensation of teachers is next considered, and the secretary urges the necessity of increased compensation, and a higher standard of qualification, especially for female teachers; on the ground of the severity and responsibility of their duties, the cost of training, and the fact that the best talent is now drawn away to private schools and seminaries, in other states, by the higher compensation offered them. The advantages of the new school register are pointed out; the cases in which schools were broken up through the incompetency of the teacher, or other causes, which had largely increased under the new law of the previous year, are next analyzed; the number of new teachers, and the comparatively small number who make teaching a profession, are noticed; an interesting narrative is given of the holding of the first teachers' institutes, whose organization was due to the liberality of Hon. Edmund Dwight; a retrospect of the year, its progress, and its signs of promise, are recorded; and Mr. Mann proceeds to discuss the duties of the state for the future, in the cause of education.

In connection with this subject, he speaks at considerable length of *school-motives*, and of some means for avoiding and extirpating *school vices*. Under these heads, he considers, first, the character, duties, and qualifications of the school

committees, urging the importance of their placing moral improvement, in their examinations of the school, in at least equal rank with intellectual progress, and that they should discountenance the effort on the part of teachers to encourage intellectual progress, at the expense of moral culture, or the development of the evil passions of our nature. He next passes to the motives that should actuate the teacher. He must not be a hireling. He must love children and love his work. The contemplation of his work, in its ever-changing character, and its beneficence should constantly excite him to new zeal, and exhilarate his spirits; if it do not, he is unfit for his work. He should enter the school-room as the friend and benefactor of his scholars; should aim to secure their good-will; should lead, not drive. Order must be maintained, but it should be maintained from reverence and regard for the teacher, and not from fear. No code of laws should be enacted, but every act should be submitted to the conscience of the school. *Is it right?* not *Is it written?* should be the question to be propounded by each scholar to his own conscience. It would be well for the teacher to speak of the duties to be done, of the reasons and rewards appertaining to them, rather than of offenses and their punishments. The moral instruction given by the teacher should have reference to their duties in school and at home; the duty of cultivating the spirit of honor and kindness to each other; the desire of aiding each other's improvement; the cowardice and meanness of attributing to others our own faults and offenses; the despicable character of falsehood and deception, &c., &c.

The government of the school is next considered; the influence of the fear of punishment, and of the restraint of higher motives, is compared; and, though corporeal punishment may be necessary in extreme cases, it should be abandoned when higher motives can be brought to bear upon the pupil. Fear is neither *curative* nor *restorative*; it is, at some times and in some cases, preventive, and hence should not be proscribed from the teacher's list of motives, but when both teacher and pupil reach that higher plane of action, for which, we are striving, we may hope to substitute love and duty for it. In this connection, Mr. Mann expresses himself decidedly opposed to the practice of expelling refractory and disobedient children from the school; they should be retained and subdued. In the exercises of the school-room, every true teacher will consider the train of *feeling*, not less than the train of *thought*, which is evolved; and the importance of being alive to the bearing and influence of them upon the character of his pupils can not be overrated.

Imperfect recitations, and their penalties, may exert an unhappy influence. The teacher should not induce them by giving too long lessons, and he should not suffer any scholar habitually to break down in recitation; and, above all, a class should not be allowed to do so, from the loss of the sense of shame, contempt for the study, and recklessness, which would follow. The other temptations in regard to lessons are next considered, and the means of obviating and overcoming them stated. The slurring or shirking lessons, the acted falsehood of procuring others to do the work, and then presenting it as the pupil's own, the prompting others at recitation, and the relying on others to prompt one, and the evils which follow from them, and the best means of preventing them, are fully stated. The use of keys, or answers, in mathematical studies, is also condemned, not more for the ignorance of the principles of mathematics which it exhibits, than for the deception and falsehood which it inevitably occasions; and the teacher

is recommended to give out original questions and problems, to thwart the practice.

The prevention of whispering, and other forms of communication, is the next topic considered, and the various methods taken to prevent it are discussed, and the moral danger attendant upon some of them noticed. The intense occupation of the pupils, and the elevation of the moral standard to such a tone as shall array the moral force of the pupils against whispering, and in favor of self-denial, are commended as the most effectual preventive.

Truancy is another school-vice to be overcome. This can be done by rendering the school attractive, by careful and accurate registration, and by frequent conference with parents. The *motives* to be brought to bear on children are numerous. The objects of knowledge should be made attractive, both by their order of presentation and the manner of exhibiting them; this requires high powers and attainments on the part of the teacher. Fear, ambition, emulation, if used as motives, must be used sparingly, and with a full consciousness of the evils which would result from their excessive application. The relative rank which is assigned to mental and moral qualities in the teacher's mind, will determine the propriety or impropriety of using emulation as an incentive. With some appropriate remarks on the preparation for school examinations, showing the necessity of their being only the measure of the actual progress of the pupils in knowledge, and some admirable suggestions on the possibility of inculcating moral lessons through intellectual exercises, and a contrast of the inductive with the dogmatic method of instruction, this able report closes.

Mr. Mann's TENTH REPORT commences with the announcement of some cheering facts relative to the advancement of the cause of education in the state. The amount appropriated by the towns for the support of schools, had risen from \$400,000, in 1837, to \$620,000, in 1845. The number of female teachers employed had increased from 3591 to 4997, while the number of male teachers was only 215 more than nine years previous. More than \$1,200,000 had been expended during the same period for the erection and repair of school-houses; the amount of apparatus had increased a hundred fold; the methods of instruction, through the influence of normal schools and teachers' institutes, and the greater strictness of examinations, had been greatly improved. Examinations both of teachers and schools had been conducted, in many instances, by written or printed questions. The government and discipline of the schools had been much improved; induced by a higher degree of competency on the parts of the teachers, more careful examination of the teachers, and visitation of the schools, and deeper interest on the part of parents; five hundred schools, almost one-sixth of the entire number, had been taught, and well taught, without a resort to corporeal punishment. The aggregate attendance had been a little advanced, though too little; and the average length of the schools had increased, since 1837, fifteen per cent. The circulation of the school abstracts had accomplished a vast amount of good, and the teachers' institutes and normal schools, were well attended, and were qualifying a better class of teachers for the state.

Having stated these encouraging facts, Mr. Mann next proceeds to give some account of the Massachusetts school system, commencing with the history of its origin and the arguments for a system of *free schools*. He specifies, first, the argument adduced for it by its early founders,—the necessity of universal education for the promotion of the Protestant faith,—an insufficient argument, because on

that ground the Romanist should oppose it; next, the argument that it was necessary for the preservation and perpetuity of republican institutions; this, too, an untenable ground, as a monarchist should, in that case, be opposed to it; the argument of the political economist, and of the moralist, who extends the positions of the economist, are next stated; and Mr. Mann proceeds to defend free schools, by an argument resting on higher grounds than either. Laying down the postulate that every child of the human family has the same right to an education that he has to inhale the air which keeps him in life, or to enjoy the light of the sun, or to receive that shelter, protection, and nourishment, which are necessary to the continuance of his bodily existence, he proceeds to defend this postulate by the following argument. Property, whether real or personal, has for its main, primary, and natural elements and ingredients, the riches of the soil, the treasures of the sea, the light and warmth of the sun, fertilizing clouds, streams, and dews, the wind, and the chemical and vegetative agencies of nature. But these are the gifts of God, not to individuals, but to the race; hence the individual can have but a life tenure, and is bound to transmit the property thus acquired, not only unimpaired, but improved, to the next generation. Again, of that portion of property which may be said to be the direct result of human toil, how very small a portion is there, for which the present generation is not indebted to those which have preceded it; our government, laws, institutions, our houses, roads, churches, the arts, sciences, discoveries, and inventions, by which we are enabled to apply labor profitably, were all, or most of them, handed down to us by those who have preceded us; and we are but the trustees of the accumulations of the ages to those who shall come after us. It follows from these premises that the next generation have a claim on that which we hold as property, such as the ward has upon the guardian, and hence there is an obligation on us to qualify those yet in their minority, for their future inheritance, and they have a right to the use of so much of their future inheritance as may be necessary thus to qualify them, before they come into full possession. Mr. Mann illustrated this also in other ways, as by the case of several proprietors of land on the same stream, where those above can not corrupt, or injure the quality, or diminish the quantity, of water to which those below are entitled, and thus the occupant below has some claim upon the waters above, before they reach his land; or, in the case of persons occupying the same vicinity, one can not injure or vitiate the quality of the atmosphere, which the others are to breathe. He sums up the argument as follows: "The successive generations of men, taken collectively, constitute one great commonwealth."

The property of this commonwealth is pledged for the education of all its youth, up to such a point as will save them from poverty and vice, and prepare them for the adequate performance of their social and civil duties.

The successive holders of this property are trustees, bound to the faithful execution of their trust by the most sacred obligations; because embezzlement and pillage from children and descendants, are as criminal as the same offenses, when perpetrated against contemporaries. Having thus laid his foundations broad and deep, he proceeds to show how the free school system of Massachusetts is reared upon them; giving first the constitutional provision relative to free schools, and then, under the following heads, in popular language, the substance of the legal enactment, and decisions bearing on the subject. Territorial organization of the state, duty of towns to maintain schools (giving under this head the decision

of the supreme court in the case of *Cushing vs. Inhabitants of Newburyport*,) school districts, prudential committees, district school-houses, school district taxes, contiguous school districts, in adjoining towns, union school districts, school committees, duty of the town committee to provide a school when the prudential committee fails to do so, duty of the town committee in regard to schools kept for the benefit of all the inhabitants of the town, visitation of schools, school-books, religious liberty, teachers, Board of Education, school registers, inquiries and returns, committees' reports, school abstracts, reports of the Board of Education, apparatus, district school libraries, state normal schools, teachers' institutes, penalties for not providing and for withholding the means of education, aids and encouragements to education, provision for answering the requests of other states and countries.

With an eloquent peroration on the results which have already been realized from this general diffusion of education in the state, Mr. Mann closes this long and able report, occupying in all nearly 300 pages.

The ELEVENTH REPORT announces an advance of more than \$50,000 over the preceding year in the appropriations for the support of schools, an increase of 241 in the number of female teachers employed, and an advance in the monthly stipend paid to both male and female teachers; which, however, especially in the case of females, it still pronounces far below what it should be, and urges a decided increase. The schools were held an average period of eight months, and the attendance was also increasing. The tables in the school abstracts had been prepared by the secretary, and an important one added, arranging the towns in the state in the order of their merit or delinquency in regard to attendance of scholars; thus demonstrating an important fact, that the attendance was much better in the scattered rural districts than in the cities and large towns. In this connection he suggests the importance of a change in the apportionment of the income of the school fund, bestowing it according to the actual attendance upon the schools, and urges some potent reasons for such a measure; he refers to an error in the act of 1847, relative to the forwarding reports and returns by the school committees, suggests some improvements in regard to holding teachers' institutes, and to the condition of the state normal schools, &c., and then proceeds to discuss a topic which he deems of vital interest to the state, viz., *The power of common schools, if under proper management and control, and attended by all the children of the state, to redeem the state from social vices and crimes*. During the preceding year, Mr. Mann had addressed a circular to John Griscom, Esq., an eminent teacher and reformer, David P. Page, Esq., of the New York State Normal School, Solomon Adams, Esq., Rev. Jacob Abbott, F. A. Adams, Esq., E. A. Andrews, Esq., Roger S. Howard, Esq., and Miss Catherine E. Beecher, all distinguished and experienced teachers, in which, after stating that he regarded high moral qualifications as an essential to successful teaching, he had propounded the following queries:—

1. "How many years have you been engaged in school-keeping; and whether in the country, or populous towns, or cities?"
2. "About how many children have you had under your care; of which sex, and between what ages?"
3. "Should all our schools be kept by teachers of high intellectual and moral qualifications, and should all the children in the community be brought within these schools for ten months in a year, from the age of four to that of sixteen years; then what proportion,—what per centage,—of such children as you have

had under your care, could, in your opinion, be so educated and trained, that their existence, on going out into the world, would be a benefit and not a detriment, an honor and not a shame, to society? Or, to state the question in a general form, if all children were brought within the salutary and auspicious influences I have here supposed, what per centage of them should you pronounce to be irreclaimable and hopeless? Of course, I do not speak of imbeciles or idiots, but only of rational and accountable beings."

The persons to whom these inquiries were addressed, were all believers in the Calvinistic doctrine of total depravity, and a transmitted sinful nature, so that no theory of the innate goodness, or perfectibility of human nature, could have influenced their opinion, yet there is a wonderful unanimity in the views they expressed. Mr. Griscom, a cautious, careful member of the Society of Friends, a teacher for forty-two or forty-three years, replied: "My belief is that, under the conditions mentioned in the question, not more than two per cent. would be irreclaimable nuisances to society, and that ninety-five per cent. would be supporters of the moral welfare of the community in which they resided. * * * * * Finally, in the predicament last stated in the circular, and supposing the teachers to be imbued with the gospel spirit, I believe there would not be more than *one half of one per cent.* of the children educated, on whom a wise judge would be compelled to pronounce the doom of hopelessness and irreclaimability."

Mr. Page says, under the circumstances stated, "I should scarcely expect, after the first generation of children submitted to the experiment, to fail, in a single case, to secure the results you have named."

Mr. S. Adams says: "So far as my own experience goes, so far as my knowledge of the experience of others extends, so far as the statistics of crime throw any light on the subject, I should confidently expect that ninety-nine in a hundred, and I think even more, with such means of education as you have supposed, and with such divine favor as we are authorized to expect, would become good members of society, the supporters of order and law, and truth and justice, and all righteousness."

Rev. Jacob Abbott replies: "If all our schools were under the charge of teachers possessing what I regard as the right intellectual and moral qualifications, and if all the children in the community were brought under the influence of these schools, for ten months in the year, I think the work of training up *the whole community* to intelligence and virtue, would soon be accomplished, as completely as any human end can be obtained by human means."

Mr. F. A. Adams had met with but two boys, out of nearly four hundred, who had been under his care, of whose correct conduct, under the circumstances supposed, he would have any doubt; and even them he could not regard as utterly irreclaimable.

Mr. E. A. Andrews replies: "On these conditions, and under these circumstances, I do not hesitate to express the opinion that the failures need not be,—would not be,—one per cent."

Miss Beecher says: "Let it be so arranged that all these children shall remain till sixteen, under their teachers, and also that they shall spend their lives in this city (*i. e.* the city where they had been taught,) and I have no hesitation in saying, I do not believe that *one*, no, *not a single one*, would fail of proving a respectable and prosperous member of society; nay, more, I believe every one would, at the close of life, find admission into the world of peace and love"

Having obtained such weighty evidence in favor of the plan suggested, Mr. Mann proceeds to consider what is necessary to carry it out, and states, as the prerequisites, the advancement of all the teachers of the state to the physical, intellectual, and moral qualifications of those who now occupy the highest rank; and, second, the power of enforcing the attendance of all the children of the state in school ten months in the year, during the period between the ages of four and sixteen. Can these prerequisites be attained? He believes they can, and urges the following considerations. The talent and ability for a supply of such teachers as are required, sufficient for this demand, exists in the state, as is evident from the large number who, entering at first on the teacher's profession, forsake it for those more lucrative, and considered more honorable, and who attain in these high distinction. If the standard of requirements was raised, and the compensation put as high as the average of other professions, the number would soon be sufficient; that the state could afford to do this, is demonstrated from the fact that the expense would not exceed three times what it is now, and the saving effected in the diminution of crime and vice, as is easily proved, would amount to tenfold the cost.

In regard to attendance, he shows that the previous legislation of Massachusetts, and other states, settles the question of the power of enforcing attendance; that in most cases it would be a benefit to the parent, and in all to the child; that in the case of the vicious and indolent parent, who now lives on his child's labor, it is but justice; and in the case of the honest and virtuous poor, to whom it might be a hardship, the state could and should compensate for the loss of service. In regard to the loss of service to the public, he demonstrates that the number employed is comparatively few, and that, in these cases, the more intelligent labor of the educated child, over sixteen years of age, would be sufficiently profitable to compensate for any loss which might otherwise ensue. He then urges, in a most eloquent appeal to the Board, the importance of taking this bold step forward, and securing to the rising generation *Universality of Education*.

Some months prior to the presentation of his TWELFTH AND LAST REPORT, Mr. Mann had resigned his office as secretary of the Board of Education, in consequence of his election to Congress. This report was prepared at the request of the Board, as his farewell address to those with whom, and for whom, he had, for almost twelve years, so faithfully labored.

In this report he reviews his past labors, contrasting the condition of the public schools of the commonwealth, at the time he accepted office, with their present state, enumerating, with a justifiable pride, the doubling of the appropriations for schools, the expenditure of \$2,200,000 on school-houses during the period, the rapid increase of female teachers, as indicating the high intellectual culture of the sex, the increase in attendance, the organization and successful operation of the state normal schools and teachers' institutes, the district school libraries, which, in some seven or eight years, had risen from nothing, to an aggregate of more than 91,000 volumes, and the beneficent legislation of the past two years, by which the sphere of the teachers' institutes was enlarged, power given to take land on appraisal for the location of school-houses, the inmates of jails and houses of correction provided with instruction, the idiot and imbecile brought under humanizing and enlightening influences, and the juvenile offender reformed, instead of being brutalized by the associations of a prison. Having thus laid before the Board the existing condition of education in the state, he proceeds, as in his former reports, to discuss a particular topic, or class of topics more at length.

Announcing, as his general subject, "The capacities of our present school system to improve the pecuniary condition, and to elevate the intellectual and moral character of the commonwealth," he proceeds to show the comparative insignificance of Massachusetts with most of the other states in territorial extent; its paucity of mineral resources, and of natural facilities for internal intercourse; its rock-bound and sterile soil, and its political inferiority in the number of its representatives in the national councils; and then, in a passage of rare eloquence and beauty, a regal gem, even among his profusion of brilliant passages, he urges that her very diminutiveness should be a stimulus to higher achievements; and that "the narrow strip of half-cultivated land, that lies between her eastern and western boundaries, is not Massachusetts; but her noble and incorruptible men, her pure and exalted women, the children in all her schools, whose daily lessons are the preludes and rehearsals of the great duties of life, and the prophecies of future eminence,—THESE ARE THE STATE." Developing and applying this idea, he proceeds to consider the common school as the most effective and benignant of all the forces of civilization and progress, and to show how the true business of the school-room connects itself and becomes identical with the great interests of society. He considers, first, the influence of correct views of *physical education*, such as might be disseminated from the school-room. By means of this, life might be prolonged, sickness, insanity, and pain prevented, weakness replaced by vigor, the appetites controlled, and the vices of excess subdued, and the body, God's earthly temple, made fit and seemly for the abode of an indwelling divinity.

Considering next the beneficial effects of a universal diffusion of intellectual education on the community, and especially a community situated like Massachusetts, he shows, by numerous illustrations, that the only efficient preventive of the division of society into a wealthy aristocracy and a poor and dependent laboring class, is that intellectual culture, which shall make the poor in money the equal of the rich, in intellectual power, in inventive genius, and in that skill and creative energy which, whatever may be their employment, will prevent them from remaining in the ranks of the poor. He passes next to the consideration of political education, and its influence in the promotion of wise action, in all that appertains to the government of the state or the nation; in the prevention of arbitrary exactions, of monopolies, of lotteries, and of licenses for the commission of crime; the too frequent administration of the oath, under circumstances inviting perjury; the preservation of the sanctity of the ballot-box; and the inculcation of those great principles of political science, which lie at the basis of all our institutions.

But far higher in importance is moral education. It is a primal necessity of social existence. Educated intellect, uncontrolled by moral principle, would be but the minister of evil. In all the history of man, intellect, unrestrained by conscience, has subverted right, and turned good into evil, until, spite of the restrictions of law, the arguments of the moralist, and the warnings and appeals of the minister of Christianity, it has attained a status so formidable, that some have been ready to give up the world as a total loss, utterly gone to wreck. The attempt to give to all the children of a community a careful moral training has not yet, however, been made; and, till this fails, we need not despair. We have in its favor the strongest testimony of experienced teachers, and, more than this, the declaration of holy writ: "Train up a child in the way he should go, and when he is old he will not depart from it." But to the full consummation of so glorious a result, more is needed than mere training, in morals. *Religious education* is

requisite. By this is meant, not sectarian education, not the teaching after and of this or that denomination, but those great truths of revelation in which all can agree, and which will cause men to know and reverence God, and love their fellow-men. The question how this religious education shall be conveyed to the young, is an important one. It must not be a religion established by government, with its formulas and creeds, for all history shows that this uniformly shelters and encourages the vilest hypocrisy and irreligion. It may not be done by permitting to one sect or another the control of all religious instruction. It can only, in our common schools, be accomplished by putting the Bible, the eternal rule of right, into the hands of the pupils, and causing the teacher, by precept, and above all by example, to enforce and illustrate its blessed teachings.

In this connection, Mr. Mann vindicates, at some length, the Board of Education, and himself, from the charge of encouraging or favoring irreligion, and, as it was charged, with advocating "*godless schools*." He shows, conclusively, that both the Board and its secretary advocated and urged the use of the scriptures in all the schools, from some of which they had been rejected when he came into office, but were restored at his instance; that he and the Board opposed the teaching of denominational catechisms and sectarian instruction, as being inconsistent with the laws, and deleterious to the best interests, of the schools; and he demonstrates, conclusively, that any other course would have proved ruinous to the schools, of great and lasting injury to the community, and of no benefit even to the parties who urged it.

With a thrilling appeal to the citizens of Massachusetts to act worthy of their fathers, and of the noble destiny which the future has in reserve for them, Mr. Mann closes his report.

In a brief SUPPLEMENTARY REPORT, with his usual thoughtfulness for the welfare of others, he suggests to the Board, that his successor will need an office (which he had never had,) a clerk, and some compensation for his traveling expenses; and incidentally, though with great modesty, he unveils a part of his own arduous labors. He had averaged fifteen hours labor per diem, from the time of taking the office, had never had a day of relaxation, and, we may add, what he did not, had expended more than the half of his salary for the cause of education.

The foregoing brief synopsis of Mr. Mann's twelve annual reports to the Board of Education, will give the reader, who is not familiar with the documents themselves, only a faint idea of the fullness and ability with which the vast details of school organization, administration, instruction, and discipline, are discussed. To be appreciated they must be read; and we know of no series of educational reports, by one mind, in any language, so readable, or so instructive. We hope the author will consent to their republication—or, what will be better, will himself recast the whole into a complete treatise on the public schools of Massachusetts.

NOTE.—The original edition of these reports was long ago exhausted, but all except the 10th, 11th, and 12th, were republished in the "*Common School Journal*," sets of which can still be had. To bring the many valuable suggestions, eloquently expressed, of Mr. Mann to the knowledge of our readers, we shall enrich several of the subsequent numbers of our *Journal* with copious extracts from his publications, arranged under appropriate headings.

VIII. SCHOOL BOOKS AND SCHOOL APPARATUS.

(1.) *Text-books.*

At the beginning of our national existence, from 1775 to 1784, the Hornbook, Primer, Bible and Psalter were the universal instruments of school instruction till about 1780, and in many of the district schools till 1800. The late Dr. Noah Webster, in some reminiscences of his early school days, addressed to Mr. Barnard and published in the *American Journal of Education* for March, 1840, says, "When I was young the books used were chiefly Dilworth's Spelling-book, the Psalter, Testament, and Bible. No geography was studied before the publication of Dr. Morse's small books on that subject, about the year 1786 or 1787 (Dr. Morse's first little compendium, entitled *Geography made Easy*, was published in 1784). No history was read, as far as my knowledge extends, for there was no abridged history of the United States. Except the books above mentioned, no book for reading was used before the publication of the Third Part of my Institute in 1785. In some of the early editions of that book I introduced short notices of the geography and history of the United States, and these led to more enlarged descriptions of the country. In 1788, at the request of Dr. Morse, I wrote an account of the transactions in the United States after the Revolution; which account fills nearly twenty pages in the first volumes of his octavo editions. Before the Revolution, and for some years after, no slates were used in common schools; all writing and the operations in arithmetic were on paper. The teacher wrote the copies and gave the sums in arithmetic, few or none of the pupils having any books as a guide. The introduction of my spelling-book, first published in 1783, produced a great change in the department of spelling; and from the information I can gain, spelling was taught with more care and accuracy for twenty years or more after that period, than it has been since the introduction of multiplied books and studies. No English grammar was generally taught in common schools when I was young except that of Dilworth.

President Humphrey, of Amherst College, writing of the period between 1790 and 1810, in a letter to Mr. Barnard, says, "Our

school-books were the Bible, Webster's 'Spelling-book' and 'Third Part,' mainly. One or two others were found in some schools for the reading classes. Grammar was hardly taught at all in any of them, and that little was confined almost entirely to committing and reciting the rules. Parsing was one of the occult sciences in my day. We had some few lessons in geography, by questions and answers, but no maps, no globes; and as for blackboards, such a thing was never thought of till long after. Children's reading and picture books we had none; the fables in Webster's Spelling-book came nearest to it. Arithmetic was hardly taught at all in the day schools. As a substitute there were some evening schools in most of the districts. Spelling was one of the daily exercises in all the classes."

Hon. Joseph T. Buckingham, whose school days extended from 1786 to 1800, gives the following list of the school books in use at that time, Webster's and Dilworth's Spelling-books, Webster's Third Part, Dilworth's Schoolmaster's Assistant, and the Bible. The late S. G. Goodrich ("Peter Parley") describing a school of his native town as it was from 1803 to 1806, gives the following as the school books, the Catechism (probably the New England Primer), Webster's Spelling-book, the Bible, Daboll's Arithmetic, (which held its place in the schools for nearly thirty-five years), Webster's Grammar—which even the master did not understand—and Dwight's Geography, which had neither maps nor illustrations, and was merely an expanded table of contents of Morse's Universal Geography. The late Salem Town, describing the school in Belchertown, Mass., which was exceptionally well taught by Mr. S. Greene (father of Prof. S. S. Greene, of Brown University), from 1793 to 1800, gives the following list of text-books, Webster's Elementary (this was probably the "American," as the "Elementary" was not published till later), Spelling-book, Alexander's English Grammar, an abridgment of Pike's Arithmetic, the Columbian Orator, Nathaniel Dwight's and Jedediah Morse's small Geographies, this latter having four maps about the size of a man's hand, and a little later, Murray's English Grammar, and English Reader.

We give on the next page the titles of school books printed in this country prior to 1800.

American Text-books Printed prior to 1800.

- Abel, Thomas, *Plane Trigonometry*, Philadelphia, 1761.
 Adam, Alex., *Rudiments of Latin Grammar*, Boston, 1793.
 Adams, Hannah, *History of New England*, Dedham, 1799.
 Alden, Abner, *Introduction to Spelling*, Boston, 1797.
 Alsop's Tables, Latin and English.
 Alexander, Caleb, *Intro. to Speaking and Writing English*,
 " *Spelling-book*, Worcester, 1799. [Boston, 1794.
 " *Grammatical System*, Boston, 1792.
 " *Latin Language*, Worcester, 1794.
 " *Grecian Language*, Worcester, 1796.
 " *Virgil*, translated, with notes, Worcester, 1796.
 American Latin Grammar, Providence, 1794.
 Andrews, John, *Sheridan's Gram. of Eng. Lang.*, Phil., 1789.
 Arithmetic, *Vulgar and Decimal*, Boston, 1724.
 Ash, John, *Dictionary of English Language*, Boston, 1794.
 " *Grammatical Institute*, Philadelphia, 1778.
 Best, W., *Logic in Question and Answer*, New York, 1796.
 Bingham, Caleb, *Young Ladies' Accidence*, Boston, 1785.
 " *American Preceptor*, Boston, 1789.
 " *Columbian Orator*, Boston, 1797.
 " *Child's Companion*, Boston, 1798. [1799.
 " *Geographical and Astronomical Catechism*, Boston,
 " *Juvenile Letters*, to assist Composition, Boston, 1799.
 " *Historical Grammar*, translated for La Croze, Boston.
 " *Copy-Slips*, Boston, 1796.
 Burr, Jonathan, *Compendium of English Gr.*, Boston, 1797.
 " *American Later Grammar*, Providence, 1794.
 " *English Grammar*, Boston, 1797.
 " *New American Latin Grammar*, New York, 1784.
 Cæsar, *Commentaries*, Worcester, 1784.
 Campbell, George, *Philosophy of Rhetoric*, London, 1776.
 Carroll, James, *Am. Criterion of Eng. Gr.*, New London, 1795.
 Catechism, or *Supplies from the Tower of David*, Boston, 1721.
 Catechism, printed for *Dorchester, Mass.*, 1650.
 Catechism in the *Negro Christianized*, Boston, 1693.
 Cheever, Ezekiel, *Short Int. to Latin Tongue* (4th Ed.) Boston,
 Child's *New Plaything*, a *Spelling-book*, Boston, 1744. [1734.
 Cicero's *Orations*, Boston, 1722.
 Clap, Thomas, *General View of Philosophy*, 1743.
 " *Foundation of Morals*, New Haven, 1765.
 Clark, John, *Introduction to Latin*, Worcester, 1786.
 Collection of *Psalm Tunes*, Boston, 1753.
 Comly, John, *English Grammar Made Easy*, Philadelphia.
 Compendium *Logicæ*, Boston, 1735.
 Comprehensive *Grammar*, Philadelphia, 1789.
 Colles, C., *Geographical Ledger*, New York, 1794.
 Cook, David, *American Arithmetic*, New Haven, 1799.
 Corderius, *Colloquies*, Boston, 18th edition, 1789.
 Culman, *Sentences for Children*, Boston, 1723.
 Daboll, Nathan, *Schoolmaster's Assistant*, New London, 1800.
 Dana, Joseph, *Lessons in Reading and Speaking*, Boston, 1792.
 Davidson, James, *Introduction to Latin Tongue*, Phila., 1798.
 Dawson, W., *Entertaining Amusement*, Philadelphia, 1754.
 De Hensch, H., *Practical French Grammar*, New York, 1796.
 Dearborn, Benjamin, *Columbian Grammar*, Boston, 1795.
 Dilworth, Thomas, *New Guide to English Tongue*, Boston, 1767.
 " *Schoolmaster's Assistant*, Hartford, 1786.
 Dixon, Henry, *English Instructor*, Boston, 1736.
 Doddridge, Philip, *Friendly Instructor*, Boston, 1749.
 Duncan, William, *Elements of Logic*, Philadelphia, 1792.
 Dwight, Nathaniel, *System of Geography*, Hartford, 1795.
 Eliot, John, *Indian Grammar*, Cambridge, 1664.
 " *Indian Grammar Begun*, Boston, 1666.
 " *Indian Logic Primer*, 1672.
 " *Primer in Indian*, 1687.
 " *Catechism in Indian*, 1687.
 Enfield, William, *The Speaker*, Hudson, 1778.
 English and German *Grammar*, Philadelphia, 1748.
 English Tongue—*Art of Spelling Improved*, Boston, 1757.
 Eusebi, G., *Dutch Grammar of English Language*, 1797.
 Erasmus' *Colloquia*, Worcester, 1785.
 Euclid's *Elements of Geography*, Worcester, 1784.
 Evans, Lewis, *Geographical and Historical Essays*, Phila., 1755.
 Feenning, Daniel, *Universal Spelling-book*, Boston, 1769.
 " *Youth's Instructor*, Dover, 1795.
 Ferguson, James, *Astronomy Explained*, Philadelphia, 1799.
 Fisher, George, *American Instructor*, Philadelphia, 1748.
 Fraser, David, *Young Lady's Assistant*, Danbury, 1794.
 Fox, George, *Instructions for Right Spelling*, Newport, 1769.
 " *Plain Directions for Reading*, Boston, 1743.
 Fiske, Moses, *New England Spelling-book*.
 Gay, Anthelme, *Prosodical Grammar*, New York, 1795.
 Gordon, John, *Mathematical Traverse Table*, Philadelphia, 1758.
 Gough, John, *Treatise of Arithmetic*, Boston, 1789.
 " *American Accountant*, Philadelphia, 1796.
 Gros, John D., *Moral Philosophy*, New York, 1795.
 Guide to *Arithmetic*, Boston, 1794.
 Guthrie, W., *Modern Geography*, Philadelphia, 1795.
 Hale, Enoch, *A Spelling-book*, Northampton, 1799.
 Haddie, James, *Latin Grammar*, New York, 1794.
 Hill, John, *Speedy Guide to Learning*, Boston, 1745.
 Holy Bible, common edition, Worcester, 1784.
 Horace, *Odes*, Worcester, 1784.
 Hodder, James, *Arithmetic Made Easy*, Boston, 1719.
 Indian Primer, by which children may learn to read the Indian
 language, Boston, 1720.
 Introduction to *History of America*, Philadelphia, 1787.
 Janeway, James, *Token for Children*, Boston, 1718.
 Johnson, S., *Compendium of Logic and Ethics*, Phila., 1752.
 " *Elementa Philosophica*, Boston, 1746.
 King's *Heathen Gods*.
 Kinnersley, Ebenezer, *Experiments in Electricity*, Phila., 1764.
 Latin Grammar, for the use of the College, Philadelphia, 1773.
 Latin Tongue, for Grammar School at Nassau Hall, Phila., 1767.
 Lake, John, *Maury's Principles of Eloquence*, Albany, 1797.
 Lavoisier, *Elements of Chemistry*, Philadelphia, 1799.
 Lee, C. A., *American Accountant*, Lansingburgh, 1797.
 Livius, *Historiarum Libri quinque priores*, Boston, 1778.
 Logan, James, *Cicero's Cato Major*, Philadelphia, 1744.
 Lowth, Robert, *Introduction to English Grammar*, Phila., 1775.
 Macpherson, John, *Moral Philosophy*, Philadelphia, 1791.
 Massachusetts *Psalter*, Indian and English, Boston, 1709.
 McDonald, Alexander, *Youth's Assistant*, Litchfield, 1789.
 Martinet, *Catechism of Nature*, Boston, 1790.
 Mennye, J., *An English Grammar*, New York, 1785.
 Miller, Alexander, *Grammar of English Lang.*, New York, 1795.
 Milne, W., *The Well-bred Scholar*, New York, 1797.
 Morning and Evening *Prayer and Church Catechism in Indian*,
 Boston, 1763.
 Morse, Jedediah, *Geography Made Easy*, New Haven, 1784.
 " " " " " " Boston, 1790.
 " *American Geography*, Elizabethtown, 1789.
 Murray, Lindley, *English Grammar*, New York, 1795.
 Negro *Christianized*, for instruction of negro servants, Boston,
 New England Primer, Boston, 1692. [1706.
 New England Primer Enlarged, Boston, 1737.
 New England Primer Improved, Boston, 1770.
 New England Primer, much improved, Philadelphia, 1797.
 New England Primer Enlarged and Improved, Charlestown, 1799.
 New and Complete Guide to the English Tongue, Phila., 1740.
 New Book of Knowledge, Boston, 1762, 1772.
 New Introduction to Music, Boston, 1764.
 Nomenclatura Breves Anglo Latina, Boston, 1752.
 Otis, James, *Latin Prosody*, Boston, 1760.
 Ovid, *Metamorphoses*.
 Parent's Gifts, Boston, 1741. [1798.
 Perry, William, *New Pronouncing Spelling-book*, Worcester,
 Pierce, *Spelling-book*.
 Philadelphia Vocabulary (Latin), Philadelphia, 1796.
 Pike, Nicolas, *New System of Arithmetic*, Newburyport, 1788.
 " *Abridged*, Worcester, 1795.
 " *Revised by E. Adams*, Worcester, 1797.
 Primer, or the Child's New Plaything, Philadelphia, 1757.
 Practical Penman, Albany, 1727.
 Protestant Teacher for Children, with verses made by Mr. John
 Rogers, martyr in Marie's reign, Boston, 1685.
 Psalter, or *Psalms of David*, Worcester, 1704.
 Root, Ernstus, *Introduction to Arithmetic*, Norwich, 1795.
 Ross, Robert, *American Grammar*, Hartford, 7th Ed., 1780.
 Royal Primer, Worcester, 1787.
 Rudiments of *Latin Prosody*, Boston, 1760.
 Ryland, John, *English Grammar*, Northampton, 1767.
 Saunderson, Nicholas, *Elements of Algebra*, Cambridge, 1740.
 Scott, William, *Lessons in Elocution*, New York, 1799.
 Sheridan, Thomas, *Dictionary of Eng. Lang.*, Phila., 1796.
 Shorter Catechism, with Proofs, Boston, 1691.
 Shorter Catechism, Boston, 1739.
 Testament, common edition by the dozen, Worcester.
 Thomas, Alexander, Jr., *Orator's Assistant*, Worcester, 1797.
 Ticknor, Elisha, *English Exercises*, Boston, 1792.
 Todd, John, *American Tutor's Assistant*, Philadelphia, 1797.
 Token for the Children of New England, Boston, 1700.
 Tuft, John, *Easy Method of Singing by Letters*, Boston, 1723.
 Venema, Pieter, *Arithmetic of Coffer Konst*, New York, 1730.
 Vinnall, John, *Student's Guide in Arithmetic*, Boston, 1792.
 Virgilius, *Opera*, with Translation, Worcester, 1796.
 Ward's *Latin Grammar*.
 Watts, Isaac, *Catechism and Prayers*, Boston, 1749.
 Webster, Noah, *American Spelling-book*, Boston, 1794.
 " *Grammatical Institute of Eng. Lang.*, Hartford, 1783.
 " " " " " " Part II., Boston, 1790.
 " " " " " " Part III., Hartford, 1799.
 Whittenhall, *Latin Grammar*, Philadelphia, 1762.
 Young Clerk's Guide to Learning, Boston, 1708.
 Youth's Instructor, Philadelphia, 1745.
 Youth's Instructor in the English Tongue, Boston, 1726.

SCHOOL-BOOKS.

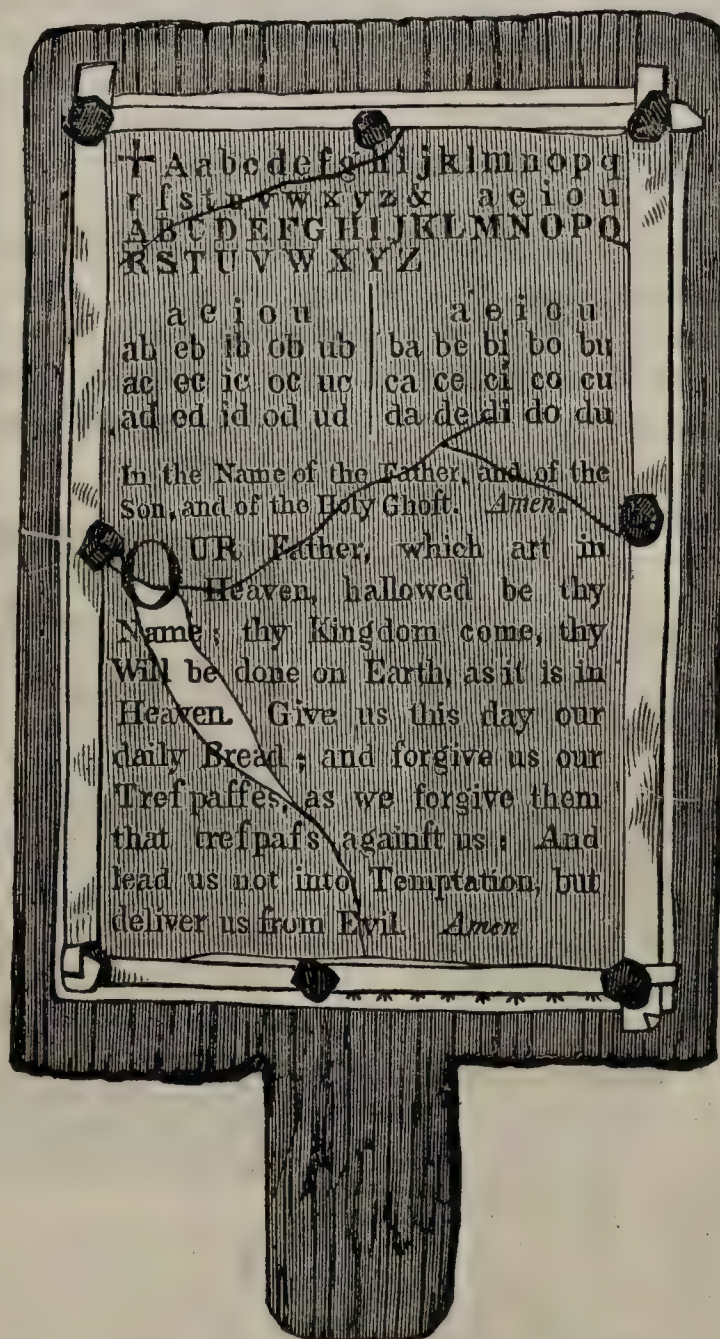
The improvement in the authorship and manufacture of text-books, from the Primer to the Manuals of our colleges and scientific schools, within the last half century is immense. We will refresh the memory of some of our readers by reproducing a few of the tough subjects and illustrations with which they or their fathers were painfully familiar.

The Horn-book.

Few of us have had the satisfaction of learning our letters after the manner described by Prior:—

"To master John the English maid
A Horn-book gives of gingerbread;
And that the child may learn the better,
As he can name, he eats the letter."

To many, even a picture of the old-fashioned Horn-book—the Primer of our ancestors, consisting of a single leaf pasted on a board, and covered in some instances with thin



HORN-BOOK OF THE EIGHTEENTH CENTURY.

transparent horn to preserve it from being torn or soiled—will be new. The following description and the accompanying cut we copy from Barnard's *American Journal of Education*, for March, 1860:—

Shenstone, who was taught to read at a dame school near Halesowen, in Shropshire, in

his delightfully quaint poem of the *Schoolmistress*, commemorating his venerable preceptress, thus records the use of the Horn-book:—

“Lo! now with state she utters her command;
Eftsoons the urchins to their tasks repair;
Their books of stature small they take in hand,
Which with pellucid horn secured are
To save from finger wet the letters fair.”

Cowper thus describes the Horn-book of his time:—

“Neatly secured from being soiled or torn
Beneath a pane of thin translucent horn,
A book (to please us at a tender age
'Tis called a book, though but a single page),
Presents the prayer the Saviour deigned to teach,
Which children use, and parsons—when they preach.”

Tirocinium, or a Review of Schools, 1784.

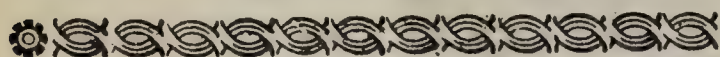
In “*Specimens of West Country Dialect*,” the use of the Horn-book is thus shown:—

“Commether *Billy Chubb*, an breng the hornen book. Gee ma the vester in tha windor, yor *Pal* came!—What! be a sleepid—I’ll wâke ye. Now, *Billy*, there’s a good bway! Ston still there, and mind what I da zâ to ye, an whaur I da point. Now; criss-cross, girt â, little a—b—c—d. That’s right, *Billy*; you’ll zoon lorn the criss-cross-lain; you’ll zoon auvergit Bobby Jiffry—you’ll zoon be a *scholard*. A’s a pirty chubby bway—Lord lov’n!”

New England Primer.

Of the New England Primer we can give no earlier specimen than the edition of 1777, embellished with a portrait of John Hancock, Esq., who was at that time President of the Continental Congress.

We must not omit the painfully interesting group of John Rogers in the burning faggots, with his wife and nine or ten children—including the one at the breast—a problem which has puzzled many a school-boy’s brain:



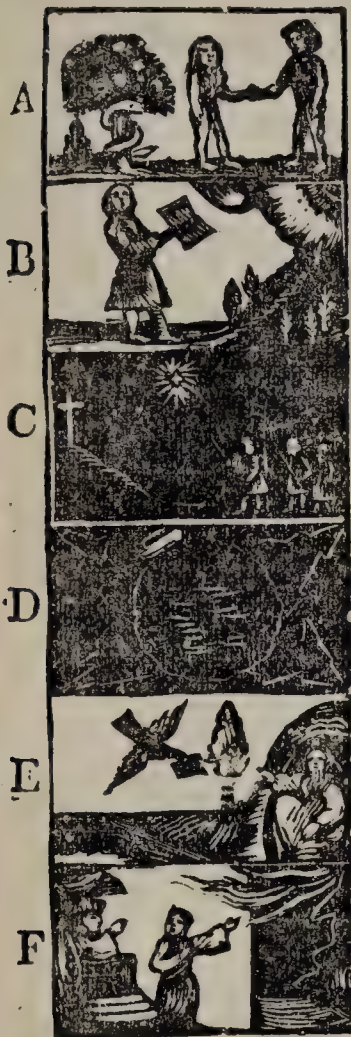
The Honorable JOHN HANCOCK, Esq;
President of the American Congress.



MR. JOHN ROGERS, minister of the gospel in London, was the first martyr in Queen MARY’S reign, and was burnt at *Smithfield*, February 14, 1554.—His wife with nine small children, and one at her breast following him to the stake; with which forrowful fight he was not in the least daunted, but with wonderful patience died courageously for the gospel of JESUS CHRIST.



We are fortunate in being able to present our readers with an exact transcript of the four pages of the first illustrated alphabet printed in this country. Some of our readers may recognize their old friends of the later editions of the Primer, in which "Young Timothy" and "Zaccheus he" were drawn to nature less severely true. The whole belongs to that department of literature which "he who runs may read, and he who reads will run."



A In A D A M's Fall
We finned all.

B Heaven to find,
The Bible Mind.

C Christ crucify'd
For finners dy'd.

D The Deluge drown'd
The Earth around.

E E L I J A H hid
By Ravens fed.

F The judgment made
F E L I X afraid.



N O A H did view
The old world & new

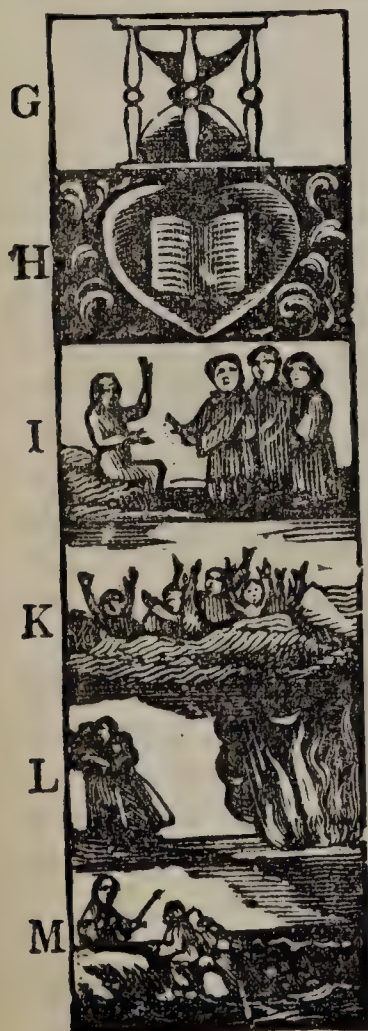
Young O B A D I A S,
D A V I D, J O S I A S
All were pious.

P E T E R deny'd
His Lord and cry'd.

Queen E S T H E R sves
And saves the *Jews*.

Young pious R U T H,
Left all for 'Truth.

Young S A M' L dear
The Lord did fear.



G As runs the Glass,
Our Life doth pass.

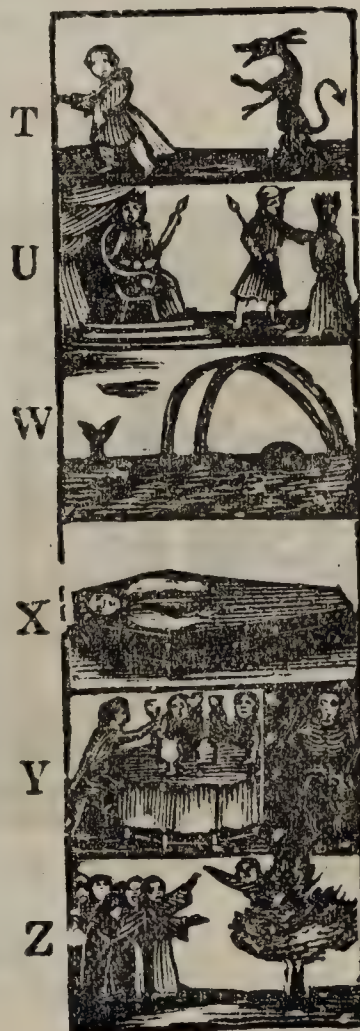
H My Book and Heart
Must never part.

I J O B feels the Rod,—
Yet blesses GOD.

Proud Korah's troop
Was swallowed up

L O T fled to Zoar,
Saw fiery Shower
On Sodom pour.

M O S E S was he
Who *Israel's* Host
Led thro' the Sea.



Young T I M O T H Y
Learnt sin to fly.

V A S T H I for Pride,
Was set aside.

Whales in the Sea,
GOD's Voice obey.

X E R X E S did die,
And so must I.

While youth do chear
Death may be near.

Z A C C H E U S he
Did climb the Tree
Our Lord to see.

WEBSTER'S SPELLING BOOK.

FEW books have done more to give uniformity to the orthography of the language or to fill the memory of successive generations with wholesome truths than Webster's Spelling Book. Who can forget his first introduction to those four-and-twenty characters, standing in stiff upright columns, in their roman and italic dress, beginning with little *a*, and ending with that nondescript "*and per se*;" or his first lesson in combining letters,

ba be bi bo bu by

Or his joy in reaching words of two syllables,

ba ker bri er ci der

Or his exultation in learning to "know his duty" in those "Lessons of Easy Words" beginning,

No man may put off the law of God :

Or the more advanced steps, both in length of words and stubborn morality, in pursuit of

The wick-ed flee

And closing his spelling career with

Om pom pa noo suc
Mich il li mack a nack

And

Ail to be troubled
Ale malt liquor

In this hasty glance at this famous text book, we have designedly passed over the fables commencing with the Rude Boy and ending with Poor Tray, that we might introduce them all unabridged with their unique illustrations.

Of the Boy that stole Apples.



AN old man found a rude boy upon one of his trees stealing Apples, and desired him to come down; but the young Sauce-box told him plainly he would not. Won't you? said the old Man, then I will fetch you down; so he pulled up some tufts of Grass, and threw at him; but this only made the Youngster laugh, to think the old Man should pretend to beat him down from the tree with grass only.

Well, well, said the old Man, if neither words nor grass will do, I must try what virtue there is in Stones; so the old Man pelted him heartily with stones;

which soon made the young Chap hasten down from the tree and beg the old Man's pardon.

MORAL.

If good words and gentle means will not reclaim the wicked, they must be dealt with in a more severe manner.

The Country Maid and her Milk Pail.

WHEN men suffer their imagination to amuse them, with the prospect of distant and uncertain improvements of their condition, they frequently sustain real losses, by their inattention to those affairs in which they are immediately concerned.

A country Maid was walking very deliberately with a pail of milk upon her head, when she fell into the following train of reflections: The money for which I shall sell this milk will enable me to increase my stock of eggs to three hundred. These eggs, allowing for what may prove addle, and what may be destroyed by vermin, will produce at least two hundred and fifty chickens. The

chickens will be fit to carry to market about Christmas, when poultry always bears a good price; so that by May Day I cannot fail of having money enough to purchase a new Gown. Green—let me consider—yes, green becomes my complexion best, and green it shall be. In this dress I will go to the fair, where all the young fellows will strive to have me for a partner; but I shall perhaps refuse every one of them, and with an air of disdain, toss from them. Transported with this triumphant thought, she could not forbear acting with her head what thus passed in her imagination, when down came the pail of milk, and with it all her imaginary happiness.

The Cat and the Rat.

A CERTAIN Cat had made such unmerciful havoc among the vermin of her neighbourhood, that not a single Rat or Mouse ventured to appear abroad. Puss was soon convinced, that if affairs remained in their present situation, she must be totally unsupplied with provisions. After mature deliberation, therefore, she resolved to have recourse to stratagem. For this purpose she suspended herself to a hook with her head downwards, pretending to be dead. The Rats and Mice, as they peeped from their holes, observing her in this dangling attitude, concluded she was hanging for some misdemeanour; and

with great joy immediately sallied forth in quest of their prey. Puss, as soon as a sufficient number were collected together, quitting her hold, dropped into the midst of them; and very few had the fortune to make good their retreat. This artifice having succeeded so well, she was encouraged to try the event of a second. Accordingly she whitened her coat all over, by rolling herself in a heap of flour, and in this disguise lay concealed in the bottom of a meal tub. This stratagem was executed in general with the same effect as the former. But an old experienced Rat, altogether as cunning as his adversary, was not so easily ensnared. I don't much like, said he, that white heap yonder: Something whispers me there is mischief concealed under it. 'Tis true it may be meal; but it may likewise be something that I should not relish quite so well. There can be no harm at least in keeping at a proper distance; for caution, I am sure, is the parent of safety.

The Fox and the Swallow.

ARISTOTLE informs us, that the following Fable was spoken by Etop to the Samians, on a debate upon changing their ministers, who were accused of plundering the commonwealth.

A Fox swimming across a river, happened to be entangled in some weeds that grew near the bank, from which he was unable to extricate himself. As he lay thus exposed to whole swarms of flies, which were galling him and sucking his blood, a swallow, observing his distress, kindly offered to drive them away. By no means, said the Fox; for if these should be chased away, which are already sufficiently

gorged, another more hungry swarm would succeed, and I should be robbed of every remaining drop of blood in my veins.

The Fox and the Bramble.

A FOX, closely pursued by a pack of Dogs, took shelter under the covert of a Bramble. He rejoiced in this asylum; and for a while, was very happy; but soon found that if he attempted to stir, he was wounded by thorns and prickles on every side. However, making a virtue of necessity, he forbore to complain; and comforted himself with reflecting that no bliss is perfect; that good and evil are mixed, and flow from the same fountain. These Briers, indeed, said he, will tear my skin a little, yet they keep off the dogs. For the sake of the good then let me bear the evil with patience;

each bitter has its sweet; and these Brambles, though they wound my flesh, preserve my life from danger.

The Partial Judge.

A FARMER came to a neighbouring Lawyer, expressing great concern for an accident which he said had just happened. One of your Oxen, continued he, has been gored by an unlucky Bull of mine, and I should be glad to know how I am to make you reparation. Thou art a very honest fellow, replied the lawyer, and wilt not think it unreasonable that I expect one of thy Oxen in return. It is no more than justice, quoth the Farmer, to be sure; but what did I say? —I mistake—It is *your* Bull that has killed one of *my* Oxen. Indeed! says the Lawyer, that alters the case; I

must inquire into the affair; and if—And *if*! said the Farmer—the business I find would have been concluded without an *if*, had you been as ready to do justice to others, as to exact it from them.

The Bear and the two Friends.



TWO Friends, setting out together upon a journey, which led through a dangerous forest, mutually promised to assist each other if they should happen to be assaulted. They had not proceeded far, before they perceived a Bear making towards them with great rage.

There were no hopes in flight; but one of them, being very active, sprang up into a tree; upon which the other, throwing himself flat on the ground, held his breath and pretended to be dead; remembering to have heard it asserted, that this creature will not prey upon a dead carcass. The bear

came up, and after smelling to him some time, left him and went on. When he was fairly out of sight and hearing, the hero from the tree called out—Well, my friend, what said the bear? he seemed to whisper you very closely. He did so, replied the other, and gave me this good piece of advice, never to associate with a wretch, who in the hour of danger, will desert his friend.

The Two Dogs.

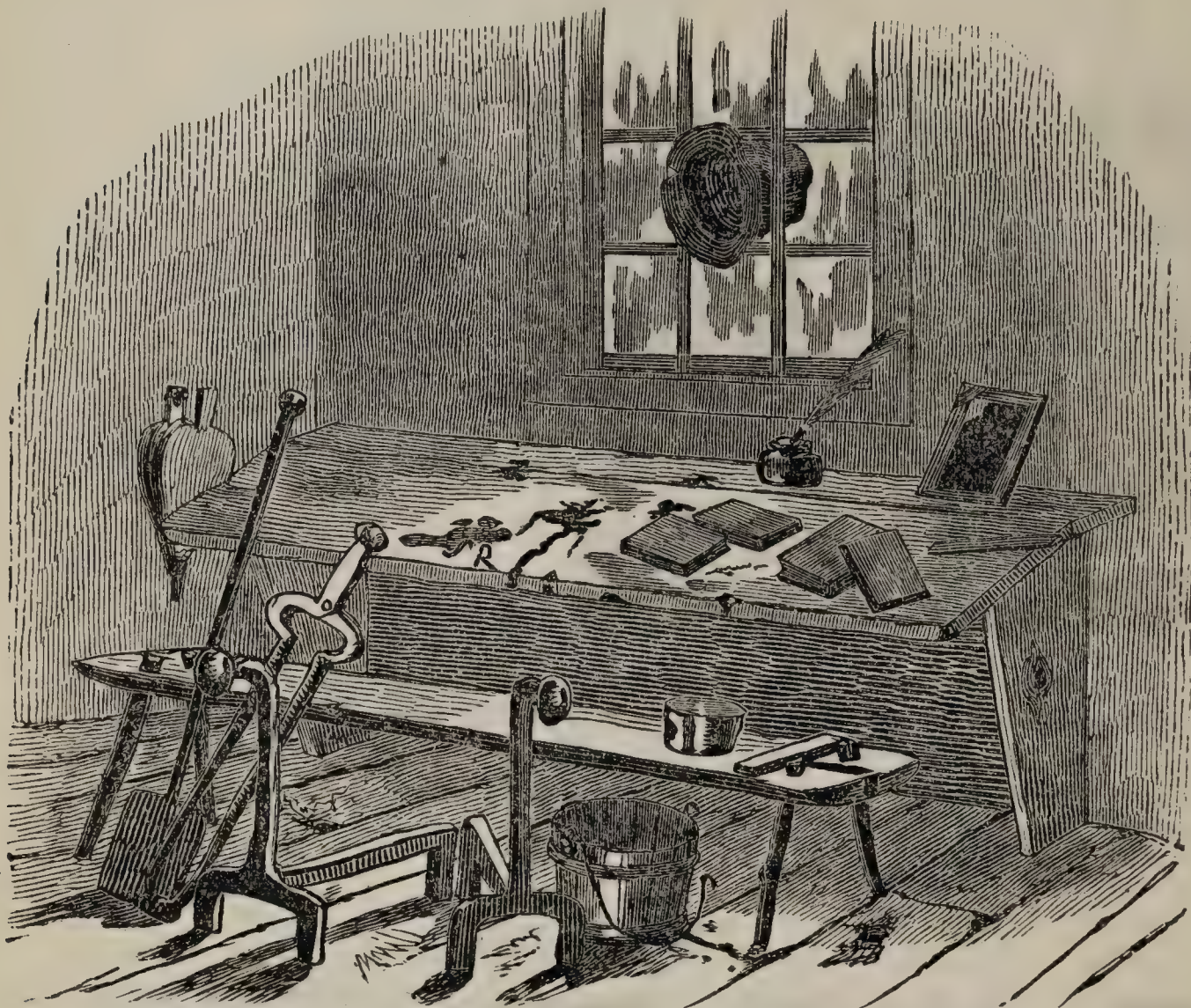


HASTY and inconsiderate connections are generally attended with great disadvantages; and much of every man's good or ill fortune, depends upon the choice he makes of his friends.

A good-natured Spaniel overtook a surly Mastiff, as he was travelling upon the high road. Tray, although an entire stranger to Tiger, very civilly accosted him; and if it would be no interruption, he said, he should be glad to bear him company on his way. Tiger, who happened not to be altogether in so growling a mood as usual, accepted the proposal; and they very

amicably pursued their journey together. In the midst of their conversation, they arrived at the next village, where Tiger began to display his malignant disposition, by an unprovoked attack upon every dog he met. The villagers immediately sallied forth with great indignation, to rescue their respective favourites; and falling upon our two friends, without distinction or mercy, poor Tray was most cruelly treated, for no other reason, but his being found in bad company.

SCHOOL APPARATUS.



APPARATUS AND EQUIPMENT OF THE DISTRICT SCHOOL AS IT WAS.



SPECIMENS OF APPARATUS OF THE SCHOOL AS IT IS.

(3.) *School Apparatus.*

In the schools of the early period (1775 to 1820) there was little in the way of school apparatus beyond the birchen rod, the strap, the raw-hide, or the ferule, which answered the double purpose of discipline and of assembling the school. The black-board was not introduced into even the city schools earlier than from 1825 to 1830, and did not find its way into the best country schools till after 1840. Globes, imported from England, were found in a few of our colleges perhaps as early as 1800, but did not make their appearance in the public schools before 1850. The orrery, or planisphere, or some other mode of representing the motion of the planets around the sun, were mentioned in some of the books, and heard of as belonging to the college properties of some great institution, but was considered, even as late as 1840, far beyond the reach of a public school. Outline maps, first made by J. H. Mather & Co., though bearing the name of S. A. Mitchell, were introduced in 1840. They were rude compared with those now in the market, and there was a long struggle before they were very generally introduced. Now, one or other of the fifteen or sixteen sets of outline or wall maps are found in all the principal schools; and this plan of illustrating the sciences by wall maps and charts has been extended to physical geography, geology, chemistry, botany, natural philosophy (in a new process of printing on oil-cloth, in Johnson's Philosophical charts), to anatomy and physiology, and even to orthography, phonetics, and grammar.

The earliest, at least one of the earliest, manufacturers of philosophical apparatus in this country was Timothy Claxton, an English mechanic who came to this country in 1823, and worked as a mechanic in a machine-shop connected with a cotton factory in Methuen, Essex County, Mass. In 1826 he removed to Boston, taking with him an air-pump of simple construction, made by himself of a piece of gas-tubing, with a ground brass plate, on a mahogany stand. In a little volume of autobiography entitled *Memoir of a Mechanic*, published in 1839, Mr. Claxton introduces the subject as follows:

"After I had been in Boston three or four years, Mr. Josiah Holbrook, a gentleman much engaged in the establishment of

lyceums, came to me to see about apparatus, as he was trying to introduce such cheap and simple instruments into schools, and other seminaries of learning, as would come within their means. He had already several articles for illustrating geometry, astronomy, &c.; but air-pumps were not then simplified enough to form a part of the lyceum apparatus. At this interview, I introduced to his notice a small air-pump for exhausting and condensing, and several articles of apparatus to be used with it, which I had made for the amusement of myself and my friends. He frankly acknowledged it to be the very thing that was wanted in the smaller establishments for education. He wished me to make some for sale, and promised to recommend them, which he did not fail to do. From this interview I may date the commencement of my making philosophical instruments as a regular business."

In the summer of 1835 Mr. Claxton had his shop and warerooms destroyed by fire; but as he was fully insured, he resumed business promptly, taking into partnership his principal workman, Mr. J. M. Wightman, who had been from the first his "right hand man," and who in 1837 took the business off his hands,—Mr. Claxton going to England in the same year. There his zeal for popular education led him to getting up lyceums, and lecturing before mechanics' institutes, and finally to an engagement with the Central Society of Education in London, to superintend the manufacture of school apparatus, similar to what he had been making in Boston. In the meantime Mr. Wightman went on extending his manufacture of apparatus, and by his interest in the better education of mechanics, and the improvement of popular education generally, became an influential member of the school committee, and Mayor of the City of Boston.

The first systematic attempt to supply the Grammar Schools of Boston with a set of philosophical apparatus was made in 1847, under the lead of George B. Emerson, LL.D., the most eminent teacher in the city, and at that time in the school committee. The set was classified and constructed by Mr. Wightman, and was very generally adopted in schools of the same grade in other cities.

The first school apparatus proper for illustrating geography, astronomy, geometry, and arithmetic, which came within the reach of

public schools, was that devised by Josiah Holbrook, and manufactured for him after 1835 by his sons, and subsequently by the Holbrook Manufacturing Co. It consisted at first of a five or six inch globe, a three inch globe in halves, a very simple tellurion, a few geometrical forms in wood, and a numeral frame or arithmeticon. These were all at first rude and imperfectly manufactured, but were subsequently greatly improved and other articles added. Competition presently brought several good 6, 8, 10, 12, 18, and 20 inch globes into the market, at reasonable prices, and spelling frames, large slates and frames with wooden panels, covered with liquid slating, slated walls, chalk-rubbers, crayons and crayon-holders, drawing-frames, chemical and philosophical apparatus, planispheres, tellurions, concentric globes, geotellurions, celestial indicators, globe timepieces, microscopes, magic-lanterns, &c., &c., followed in rapid succession, until the furnishing of a school-house cost more than twice or three times what the old school-house, furniture and all, would have required fifty years ago. This, of course, demanded that the school-houses should be more roomy and better built, better arranged, and supplied with better and more comfortable desks and seats than they had been, as will be hereafter described.

There is another improvement of which our fathers had no notion, but which to-day is recognized all over the country,—a supply of reference books for a school and where it can be procured, a district library. No school would now be considered furnished, without Webster's or Worcester's large Dictionary, Lippincott's or some other Gazetteer, Johnson's, or Colton's Atlas, and Johnson's, or Appleton's popular cyclopædias, for reference by both teachers and scholars. If they have a library of choice reading for the pupils and their families, so much the better, and the city and many of the village schools do have this additional means of instruction. In many of the schools, also, there is a cabinet of minerals and geological specimens, not very extensive, but sufficiently so to enable the children to recognize the principal strata, minerals, and elementary bodies which enter into the geology of the neighborhood and the globe. In these matters of apparatus, cabinets, libraries, &c., we are perhaps going to the opposite extreme from that of our

fathers, and introducing to the mind of the child so great a variety of objects of thought and study, that no one of them will be completely mastered.

In our city schools, particularly, and to some extent in all the public schools, this multiplicity of studies and objects of thought has put so much work upon the children that there is danger of their more delicately organized and ambitious pupils breaking down under it; and this danger is obviated in a way characteristic of our time, not by abundant and invigorating exercise in the open air, but by exercises which are known as "light gymnastics," the device in part of Mr. Dio Lewis, and in part of Prof. Watson. The apparatus for this purpose consists of wands, wooden rings, wooden dumb-bells, Indian clubs, &c. The Manual of Gymnastics prescribes a great variety of exercises with these, which are so arranged as to keep up the interest of the pupils in them for a long time. These "light gymnastics" unquestionably do something toward invigorating the muscles, and increasing the litheness and dexterity of the pupil, but they are liable to the objection that the mental faculties, already overwearied by the multiplicity of lessons, are still further taxed to remember and go through these calisthenic exercises in their proper order, when the mind should be relaxed from all care and fatiguing thought, while the body is reinvigorated by open air sports and pastimes. Still, in default of any thing better, the "light gymnastics" serve a tolerable purpose. The regulation of the temperature in the school-rooms by a thermometer, and the introduction of good and sufficient means of warming and ventilation, the systemization of the school exercises, recitations, &c., by a programme regularly adhered to, and indicated by the stroke of the teacher's bell, the general abolition of cruel and unusual punishments, the great decline in the use of the rod, strap, or ferule, and the substitution of merit rolls and records, and tokens of honor, are all steps in the progress of education in our public schools, which indicate the improvement which has been made since the days of the vigorous and stern pedagogues of eighty or a hundred years ago.

IX. SCHOOL ARCHITECTURE.

(1.) *School-houses as they were.*

Our illustrations give some idea of the exterior appearance of the rural school-houses of eighty or a hundred years ago, which cast not only their shadows, but projected themselves into our own times. They were generally either log buildings or frame, though occasionally these perversions of architecture were perpetuated in brick or stone. The location, almost invariably chosen for convenience of access to children from widely separated homes, was at the crossing of the roads, and if possible on some knoll, without tree, shrub, or inclosure. If the building was of logs, it was rarely chinked and of course never painted; if a frame building, the weather-boarding was cheap, generally warped, and often detached for fuel or other purposes, and the building, if painted at all, was either red or yellow. We have given elsewhere in this volume descriptions of the interior of some of these school-houses, in different parts of the country, from the pens of the late Dr. Humphrey, S. G. Goodrich, Judge Longstreet, and others. The improvement in these edifices did not begin till after the first quarter of the present century. A writer in the *Educational Monthly*, in 1871, describing a New England school-house, where he had attended school from 1828 to 1830, in a large and wealthy village, gives the following pen-picture:

"It stood upon a little knoll, close to the street, with no inclosure, no trees, and no protection from the gaze of the passers-by. It was a square frame building of one story, about twenty by twenty-five feet, covered with clapboards (except where these had been torn off to aid in kindling the fire) and shingled. The clapboards had at some remote period been painted red, but this now alternated with weather-stains, and gave the building a sort of brindled appearance. Ascending two or three stone steps to the weather-beaten door, the entry, as it was called, presented itself, a square closet where the boys and girls hung hats, bonnets, and dinner-pails. The school-room, into which we next passed, was nearly square; it had been lathed and plastered, but the walls were much broken, and some artistic genius had adorned the wall overhead (the room was hardly seven feet high) with wreaths and festoons and comic figures executed in

lamp-smoke, so completely that hardly a vestige of white wall remained. The traditional style of writing-desks, a board attached to the wall and running round three sides of the room, was in use here, but the building committee had kindly provided a shelf below, where our school-books could be stored, when not in use. The seats for the older scholars were of slab, with legs sawed from some sapling about two inches through, and were without backs. The smaller children had similar but lower benches. In the middle of the room was a huge rusty box-stove, which could take in two-foot wood; while on the side unoccupied was the master's chair and a square cross-legged pine table. The teacher's table, the writing-desks, and the benches, bore evidence of the whittling propensities of the boys, and many was the fly-prison and pin-box carved and excavated in the desk-board, while the less expert had cut holes through it, and would amuse themselves with dropping crumbs to the hungry mice which tenanted the school-house."

Henry Ward Beecher thus describes his reminiscence of the *school-house and school* of his boyhood.

"It was our misfortune, in boyhood, to go to a District School. It was a little square pine building, blazing in the sun, upon the highway, without a tree for shade or sight near it; without bush, yard, fence, or circumstance to take off its bare, cold, hard, hateful look. Before the door, in winter, was the pile of wood for fuel, and in summer, there were all the chips of the winter's wood. In winter, we were squeezed into the recess of the farthest corner, among little boys, who seemed to be sent to school merely to fill up the chinks between the bigger boys. Certainly we were never sent for any such absurd purpose as education. There were the great scholars—the school in winter was for *them*, not for us picanninies. We were read and spelt twice a day, unless something happened to prevent, which *did* happen about every other day. For the rest of the time we were busy in keeping still. And a time we always had of it. Our shoes always would be scraping on the floor, or knocking the shins of urchins who were also being 'educated.' All of our little legs together, (poor, tired, nervous, restless legs, with nothing to do,) would fill up the corner with such a noise, that every ten or fifteen minutes the master would bring down his two-foot hickory ferule on

the desk with a clap that sent shivers through our hearts, to think how that would have felt, if it had fallen somewhere else; and then, with a look that swept us all into utter extremity of stillness, he would cry, 'silence, in that corner!' It would last for a few minutes; but, little boys' memories are not capacious. Moreover, some of the boys had mischief, and some had mirthfulness, and some had both together. The consequence was that just when we were the most afraid to laugh, we saw the most comical things. Temptations, which we could have vanquished with a smile out in the free air, were irresistible in our little corner, where a laugh and a spank were very apt to woo each other. So, we would hold on, and fill up; and others would hold on and fill up too; till by-and-by the weakest would let go a mere whiffet of a laugh, and then down went all the precautions, and one went off, and another, and another, touching the others off like a pack of fire-crackers! It was in vain to deny it. But as the process of snapping our heads, and pulling our ears went on with primitive sobriety, we each in turn, with tearful eyes, and blubbering lips, 'declared we did not mean to,' and that was true; and that 'we wouldn't do so any more,' and that was a lie, however unintentional; for we never failed to do just so again, and that about once an hour all day long.

"A woman kept the school, sharp, precise, unsympathetic, keen and untiring. Of all ingenious ways of fretting little boys, doubtless her ways were the most expert. Not a tree to shelter the house, the sun beat down on the shingles and clapboards till the pine knots shed pitchy tears; and the air was redolent of hot pine wood smell. The benches were slabs with legs in them. The desks were slabs at an angle, cut, hacked, scratched; each year's edition of jack-knife literature overlaying its predecessor, until it then were cuttings and carvings two or three inches deep. But if *we* cut a morsel, or stuck in pins, or pinched off splinters, the little sharp-eyed mistress was on hand, and one look of her eye was worse than a sliver in our foot, and one nip of her fingers was equal to a jab of a pin; for we had tried both.

"We envied the flies—merry fellows; bouncing about, tasting that apple skin, patting away at that crumb of bread; now out of the window, then in again; on your

nose, on neighbor's cheek, off to the very school-ma'am's lips; dodging her slap, and then letting off a real round and round buzz, up, down, this way, that way, and every way. Oh, we envied the flies more than any thing except the birds. The windows were so high that we could not see the grassy meadows; but we could see the tops of distant trees, and the far, deep, boundless blue sky. There flew the robins; there went the bluebirds; and there went we. We followed that old Polyglott, the skunk-blackbird, and heard him describe the way that they talked at the winding up of the Tower of Babel. We thanked every meadow-lark that sung on, rejoicing as it flew. Now and then a 'chipping-bird' would flutter on the very window-sill, turn its little head side-wise, and peer in on the medley of boys and girls. Long before we knew it was in Scripture, we sighed: 'Oh that we had the wings of a bird'—we would fly away and be out of this hateful school. As for learning, the sum of all that we ever got at a district-school, would not cover the first ten letters of the alphabet. One good, kind, story-telling, Bible-rehearsing aunt at home, with apples and ginger-bread premiums, is worth all the school-ma'ams that ever stood by to see poor little fellows roast in those boy-traps called district-schools."

There was some improvement, but not much, in the external construction of school-houses in the large cities of the country, prior to 1840; but the advance (and it has been a great one, amounting to a revolution, though there are even now in all the States too many school-houses answering very nearly to the preceding description) has been mainly since 1838. The progressive development of the literature of this subject is thus given by Hon. E. R. Potter, of Rhode Island, in a report to the National Educational Convention held in Philadelphia in October, 1847, in which he, as the organ of a committee of that body, recommended for general circulation in the United States a small treatise on the location, size, ventilation, warming, and furniture of buildings designed for educational purposes, prepared, at the request of the committee, by Hon. Henry Barnard of Connecticut.

The earliest publication on the subject in this country, which has met the notice of the Committee, may be found in the School Magazine, No. 1, published as an appendage to the Journal of Educa-

tion, in April, 1829. In 1830, Mr. W. J. Adams, of New York, delivered a lecture before the American Institute of Instruction, "*On School-houses and School Apparatus*," which was published in the first volume of the transactions of that association. Stimulated by that lecture, the Directors of the Institute in the following year offered a premium of twenty dollars for the best "*Essay on the Construction of School-houses*." The premium was awarded by a committee of the Institute to the essay by Dr. William A. Alcott, of Hartford, Conn., then residing in West Newton, Mass. This "Prize Essay" was published in the second annual volume of lectures before the Institute, as well as in a pamphlet, and was widely circulated and read all over the country. In 1833, the Essex County Teachers' Association published a "*Report on School-houses*" prepared by Rev. G. B. Perry, which is a searching and vigorous exposure of the evils resulting from the defective construction and arrangement of school-houses. From this time the subject began to attract public attention, and improvements were made in the construction and furniture of school-rooms, especially in large cities and villages.

In 1838, Hon. Horace Mann submitted a "*Report on School-houses*," as supplementary to his First Annual Report as Secretary of the Board of Education in Massachusetts, in which the whole subject, and especially that of ventilation, is discussed with great fullness and ability. This Report was widely circulated in a pamphlet form, and in the various educational periodicals of the country, and gave a powerful impulse to improvement in this department; not only in Massachusetts, but in other States. In the same year, Hon. Henry Barnard prepared an "*Essay on School Architecture*," in which he embodied the results of much observation, experience and reflection, in a manner so systematic and practical as to meet the wants of all who may have occasion to superintend the erection, alteration, or furnishing of school-houses. This essay was originally prepared and delivered as a lecture in the course of his official visits to different towns of Connecticut, as Secretary of the Board of Commissioners of Common Schools. It was first published in 1841, in the Connecticut Common School Journal, and in 1842 was submitted, with some modifications and numerous illustrations, as a "*Report on School-houses*," to the Legislature. It may be mentioned as an evidence of the low appreciation in which the whole subject was regarded at that time, in a State which prides herself on the condition of her common schools, and on the liberality with which her system of public education is endowed, that the Joint Standing Committee on education, on the part of the Senate and House, refused to recommend the publication of this Essay, although it is by far the most thorough, systematic and practical discussion of the subject which has appeared in this country or in Europe. And it was only through the strenuous efforts of a few intelligent friends of school improvements that its publication was secured, and then, only on condition that the author should bear the expense of the wood-cuts by which it was illustrated, and a portion of the bill for printing. Since its first publication, more than one hundred thousand copies of the original essay have been printed in various forms and distributed in different States, without any pecuniary advantage to the

author. * * * In 1838, Mr. Barnard republished his essay, with plans and descriptions of numerous school-houses which had been erected under his direction in Rhode Island and Connecticut, and after his suggestions in other States, and including all of the plans of any value which had been published by Mr. Mann, Mr. Emerson, Mr. Bishop (the Providence plans), and other laborers in this field at home and in England, with the title of "*School Architecture, or Contributions to the Improvement of School-houses in the United States*."

Without the remotest thought of ignoring the great services of others in securing local action in this line of improvement, or in extending and perfecting the work in any State, we are satisfied that the first and highest honor in this department of labor belongs to Hon. Henry Barnard,* not only for his early, but for his masterly and exhaustive treatment of the whole subject in 1838, not only to meet the immediate demand, but to leave little or nothing in the way of principles, or details of internal arrangements, to be developed and perfected afterwards. To the following summary of principles set forth in 1838, to be regarded in the location, construction, arrangement of seats and desks, lighting, ventilation, warming, and equipment generally, we find nothing essentially important in the structures erected within the past year.

School-houses as they should be.

1. A location, healthy, accessible from all parts of the district; retired from the dust, noise and danger of the highway; attractive, from its choice of sun and shade, and commanding, in one or more directions, the cheap, yet priceless educating influences of fine scenery.
2. A site large enough to admit of a yard in front of the building, either common to the whole school, or appropriated to green-sward, flowers, and shrubbery; and two yards in the rear, one for each sex, properly inclosed, and fitted up with means of recreation and exercise.
3. Separate entrances to the school-room for each sex; each entrance distinct from the front door, and fitted up with scraper, mats, and old broom for the feet; with hooks, shelves, &c., for hats, over-coats, over-shoes and umbrellas; with sink, pump, basin and towels, and with brooms and duster, and all the means and appliances necessary to secure habits of order, neatness and cleanliness.
4. School-room, in addition to the space required by aisles and the teacher's platform, sufficient to accommodate with a seat and desk, not only each scholar in the district who is in the habit of attending school, but all who may be entitled to attend;

* It should be said in justice to Dr. Barnard, whose name appears as the author of this article, that this chapter was written by another hand, and was never seen by him till it was in print. In the Preface to his *Principles of School Architecture*, Dr. B. gives a chronological history of the previous efforts which had been made to improve the designs, construction and equipment of school-houses. In the revised edition (1873) of the *School Architecture* are upwards of 200 illustrations of buildings recently erected in different parts of the country.

with verge enough to receive the children of industrious, thoughtful and religious families, who are sure to be attracted to a district which is blessed with a good school-house and a good school.

5. At least one spare room for recitation, library, and other uses, to every school-room, no matter how small the school may be.

6. An arrangement of the windows, so as to secure one blank wall, and at the same time the cheerfulness and warmth of the sunlight, at all times of the day, with arrangements to modify the same by blinds, shutters, or curtains.

7. Apparatus for warming, by which a large quantity of pure air from outside of the building can be moderately heated, and introduced into the room without passing over a red-hot iron surface, and distributed equally to different parts of the room.

8. A cheap, simple, and efficient mode of ventilation, by which the air in every part of a school-room, which is constantly becoming vitiated by respiration, combustion, or other causes, may be constantly flowing out of the room, and its place filled by an adequate supply of fresh air drawn from a pure source, and admitted into the room at the right temperature, of the requisite degree of moisture, and without any perceptible current.

9. A desk with at least two feet of top surface, and in no case for more than two pupils, inclined toward the front edge one inch in a foot, except two to three inches of the most distant portion, which should be level,—covered with cloth to prevent noise,—fitted with an ink-pot (supplied with a lid and a pen-wiper) and a slate, with a pencil-holder and a sponge attached,—supported by end-pieces or stanchions, curved so as to be convenient for sweeping, and to admit of easy access to the seat,—and of varying heights for small and large pupils, the front edge of each desk being from seven to nine inches (seven for the lowest and nine for the highest,) higher than the front edge of the seat or chair attached.

10. A chair or bench for each pupil, and in no case for more than two, unless separated by an aisle, with a seat hollowed like an ordinary chair, and varying in height from ten to seventeen inches from the outer edge to the floor, so that each pupil, when properly seated, can rest his feet on the floor without the muscles of the thigh pressing hard upon the front edge of the seat, and with a proper support for the muscles of the back.

11. An arrangement of the seats and desks, so as to allow of an aisle or free passage of at least two feet around the room, and between each range of seats for two scholars, and so as to bring each scholar under the supervision of the teacher.

12. Arrangements for the teacher, such as a separate closet for his over-coat, &c., a desk for his papers, a library of books of reference, maps, apparatus, and all such instrumentalities by which his capacities for instruction may be made in the highest degree useful.

13. Accommodations for a school library for consultation and circulation among the pupils, both at school and as a means of carrying on the work of self-education at their homes, in the field, or the workshop, after they have left school.

14. A design in good taste and fit proportion, in place of the wretched perversions of architecture, which almost universally characterize the district or public school-houses.

15. While making suitable accommodation for the school, it will be a wise, and, all things considered, an economical investment, on the part of many districts, to provide apartments in the same building, or in its neighborhood, for the teacher and his family. This arrangement will give character and permanence to the office of teaching, and at the same time secure better supervision for the school-house and premises, and more attention to the manners of the pupils out of school. Provision for the residence of the teacher, and not unfrequently a garden for his cultivation, is made in connection with the parochial schools in Scotland, and with the first class of public schools in Germany.

16. Whenever practicable, the privies should be disconnected from the play-ground, and be approached by a covered walk. Perfect seclusion, neatness, and propriety should be strictly observed, and can easily be done wherever water is supplied.

17. A shed, or covered walk, or the basement story paved under feet, and open for free circulation of air for the boys, and an upper room with the floor deafened and properly supported for calisthenic exercises for the girls, is a desirable appendage.

In 1857, Mr. Burrowes, who had been State superintendent of schools in Pennsylvania, after trying in vain to obtain an appropriation for the distribution of Dr. Barnard's "*School Architecture*," to every district in Pennsylvania, prepared a similar work, which was circulated extensively in that State. In 1858, Mr. James Johonnot published a very good treatise on Country School Houses, with numerous illustrations, and in 1872 another with the simple title of "*School Houses*," the architectural designs in which were drawn by S. E. Hewes, architect, and which contained, as an appendix, Messrs. J. W. Schermerhorn & Co.'s Illustrated Catalogue of School Furniture, Apparatus, and Appliances, unquestionably the largest and most complete in the country. In 1861 or 1862, Mr. George E. Woodward, architect and publisher, who had previously published many designs and plans of school-houses, issued a large and elaborate work, Eveleth's *School-house Architecture*. Several other architectural writers have also published many designs for school-houses very pleasing to the eye, but occasionally defective in their internal arrangements from want of knowledge of the actual requirements of the school. On the subject of ventilation, partly with reference to school-houses, there have been several special treatises by Reid, Gouge, Leeds, &c. Upwards of \$100,000,000 have been invested in the construction and equipment of school-houses in the different States since 1838.

RICHARD BENTLEY—TRINITY COLLEGE.

Richard Bentley was born at Oulton, near Leeds, in Yorkshire, January 27, 1662—his father being a 'yeoman,' and his mother the daughter of a stonemason. The son received his early classical training from Jeremiah Boulton, in the Wakefield Grammar School. He was admitted sizar of St. John's College, Cambridge, in 1676, became a scholar on the Dowman foundation in 1679, and on taking his first degree ranked on the present scheme as third wrangler. He became head master of the grammar school at Spalding in 1680, and accepted the office of domestic tutor to the son of Dr. Edward Stillingfleet, Dean at St. Paul, and subsequently Bishop of Winchester, in 1682. In 1689 he removed to Oxford with his pupil, and was incorporated Master of Arts in 1689. In 1691 he received deacon's orders, and in 1692 delivered the first series of the *Boyle Lectures* on Natural and Revealed Religion. He had in the meantime achieved a European reputation by the publication of his *Dissertation upon the Epistles of Phalaris*, and through the influence of Dr. Stillingfleet he became librarian of the King's library at St. James'. By his influence the Cambridge University Press was equipped with new type and put on a reputable foundation. In 1695 he was made rector of Hartlebury, and chaplain in ordinary to the King, and in 1696 he was created Doctor of Divinity at Cambridge. In 1697 he produced another *Dissertation on the Epistles of Phalaris*, which involved him in a literary controversy with the best scholars and brightest wits of England, in which he was and is still regarded victor.

MASTERSHIP OF TRINITY COLLEGE *

The foundation of Trinity College, Cambridge, is said to have been "the first fruit of the Reformation." Henry VIII., about a month before his death, appropriated to the establishment of that college a part of the revenues of the spoliated monasteries. "The price of a dog, and the hire of a harlot," say the Rabbins, "shall not be put to any holy purpose," and even the Jewish priest, who murdered the Lord of life, refused to put the price of blood into their treasury. But the price of much blood, the hire of much spiritual prostitution, constituted the original treasury of that corporation, whose name now being utterly disconnected with all religious associations, and giving rise to innumerable irreverent puns, might very fitly be changed. Its first days were dark and turbid, no wonder, yet it received a lody of statutes from Edward VI., that blossom of royalty, whose beautiful youth, and timely death, preserved the house of Tudor from utter execration, who, happily for himself, if not for England, was called away before his mother's milk was well out of his veins, and before any of his father's venom was ripened. Queen Elizabeth, who united the best and worst of both sexes, her grandfather's craft and frugality, her father's courage and cruelty, and her poor mother's vanity, gave another set of statutes, and from the apparent discrepancy of these codes, much of the long enigma of Bentley's litigations was compounded. The college flourished mightily. At one time, the two archbishops and seven bishops were its *alumni*. It could boast of Coke, and Bacon; of Barrow, and Newton. Nor ever, till this time, has it lacked pupils who glory in its name, and in whose names it well may glory.

Contrary to the constitution of most colleges, Trinity is obliged to accept a master at the appointment of the crown. William III., during the life of his queen, devolved all literary and religious patronage upon her, who was regarded, even by the conforming clergy, as the true sovereign, while her consort was considered a little more than commander-in-chief. Even the royal library was called the Queen's library. After Mary's death, William, displaying herein the rare knowledge of his own ignorance, committed to six

* The following account of Bentley's Mastership of Trinity College is abridged from *Lives of Northern Worthies*. By Hartley Coleridge, 3 vols., *Richard Bentley* in Vol. I.

prelates the responsible task of recommending fit persons for all vacant bishoprics, deaneries, and other ecclesiastical preferments, as well as headships and professorships in the royal patronage. It was a wise act, and had it been followed in spirit by his successors, the Church had never been, as now, a loose card in the hands of state gamblers. The original members of this commission were Tenison, Archbishop of Canterbury; Sharp, of York; Lloyd, Bishop of Lichfield and Coventry; Burnet, of Sarum; Stillingfleet, of Worcester, and Patrick, of Ely. On the death of Stillingfleet, in 1699, Moore, Bishop of Norwich, was advanced to his place; and Dr. Montague being promoted to the deanery of Durham, Bentley was recommended by them to the vacant headship of Trinity College, Cambridge.

On the first of February, 1700, Bentley was installed Master of Trinity College,—looked upon by Europe as her first scholar, and by England as the tutor of her future sovereign. But the hand of Providence was heavy on the house of Stuart. William, Duke of Gloucester, died July 29, 1700, and so prevented Bentley from sharing the honors of Fénelon, as the preceptor of a possible good king, or the disgrace of Seneca, as the instructor of an actual Nero.

His first step on entering into the office was of a very inauspicious description. A dividend from the surplus money had been fixed in December, 1699, to be paid, agreeably to the custom of the college, to the masters and fellows for the year ending at Michaelmas. The master's share, amounting to 170*l.*, was clearly due to Dr. Montague, whose resignation took place in November, but by some accident it had not been disbursed to him. Bentley, immediately upon his admission, claimed this sum, as being profits accruing during the vacancy, and therefore payable to the new master, and by terrifying the treasurer, who declined paying it, with a threat of bringing him before the Archbishop of Canterbury, he actually obtained the money.

It so happened, that, at Bentley's accession, the Master's lodge at Trinity was very much in want of repair. He, who was a member of the same club with Sir Christopher Wren, and whose spirit was a sojourner in Athens, must needs have had magnificent ideas of architecture; and if he had very inadequate calculations of the expense attending the realization of such ideas, the errors of his arithmetic ought not to impugn the integrity of his principles. Yet the expensiveness of these improvements,—the long bills he ran up with masons, carpenters, *g'aziers*, &c., and the violent means whereby he enforced payment at the college expense, were the chief ostensible pretexts of the quarrel between Bentley and his college! Its real causes, however, we believe to have lain much deeper.

In the first year of his mastership, Bentley became Vice-Chancellor, being chosen agreeably to the custom of the University, as a senior in degree among the Heads of houses, who had not already served in that office. Owing, probably, to his inexperience in University business, very few matters of importance were transacted during the year of Bentley's vice-chancellorship. One of its duties seems to consist in giving of dinners, which, owing perhaps to the unfinished state of his lodge, he did not fulfil to general satisfaction. Yet, considering that he was then engaged in the important business of winning and marrying a wife, he might fairly have been exempted from the charge of inhospitality. He had long cherished an attachment to Mrs. Joanna Bernard, a lady who had been a visitor in Bishop Stillingfleet's family. She was daughter of Sir John Bernard, in Huntingdonshire. Being now raised to a station of dignity and competence, he succeeded in obtaining the object of his affections, and was united to her at Windsor, having previously obtained a royal dispensation, under the Great Seal, for deviating from Queen Elizabeth's statutes, which enjoined celibacy to the master as well as

to the fellows of Trinity College. This marriage appears to have been eminently happy. The lady, who continued the partaker of his joys and sorrows for nearly forty years, is described as possessing the most amiable and valuable qualities.

In the course of Bentley's year of office, he had an opportunity of displaying his spirit and decision, in upholding the rights of the University against the mayor and corporation of Cambridge, who had given permission and encouragement to players to perform at Sturbridge fair, without the sanction of the Vice-Chancellor, and in defiance of his authority. His vindication of these privileges, granted by charters and acts of parliament, was essential to the discipline of the place, and we may judge from the practice of subsequent times, that the prompt interference of Dr. Bentley on this occasion was productive of good and permanent effects.

At the general election, in November, 1701, Cambridge returned to parliament Mr. Isaac Newton. Never can she hope again to be so represented. Yet the philosopher must have felt rather out of his element among the squires and courtiers in St. Stephen's. It is needless to say that Bentley voted for his illustrious friend.

During the first five years of his mastership, the Doctor made several innovations in college discipline, some of which, though reluctantly received at first, are still maintained with advantage. He improved the system of examinations for fellowships and scholarships, and abolished the truly electioneering custom which obliged the candidates to keep open hospitality at a tavern during the four days. He extended the penalty of three-halfpence for absence from chapel, which had been exacted from undergraduates only, to the lower half of the sixty fellows. He altered the hour of the Saturday evening Latin declamations, much to the scandal of some of the seniors, and decreed that the head lecturer, and four sub-lecturers, should be fined eightpence and fourpence respectively, according to the statute, if they neglected to lecture and examine daily in the hall. Another, and very unpopular exertion of his authority, certainly, seemed to reflect on the fellows in a very tender concern. A pecuniary mulct was appointed by statute on any person leaving table before grace. Now the fellows, not relishing the surveillance of a number of impatient youths upon the protraction of their repast, were in the habit of permitting the younger students to leave hall at pleasure, and laying a fine of twopence weekly on all, whether present or absent. This imposition, the master, by his sole prerogative, annulled, and gave free permission to depart before grace, without punishment; alleging, as his ground, "the unreasonable delays at meals, at some of the fellows' tables." After a feast comes a fast. There had been no supper allowed in hall on Friday. Bentley, overruling the scruples of the superstitious, ordered that there should be a flesh-supper in hall on that day, in order to prevent the youths from satisfying their appetites in more exceptionable places. He also obliged the non-lemen and fellow-commoners to attend chapel, and perform college exercises, as well as the other students. In all this, there was nothing objectionable; but Bentley carried all with a high hand, scarcely deigning to consult the eight seniors, his statutable advisers.

He also took upon himself to expel a member of the college, who had been twice detected by the proctor at a house of ill-fame, and sundry times at a dissenting meeting-house. In dismissing a profligate hypocrite, the master would surely have met with the support of his fellows; but there was an informality in the manner of doing it, which hereafter furnished matter of complaint.

Meanwhile, a question was discussing, which, though of little public

interest, concerned the college deeply. It was disputed, whether absolute seniority could take place of seniority of degree;—whether, for instance, a Master of Arts, ranking fifty in the list of fellows, should have preoption of chambers or livings over a Doctor of Divinity ranking only forty-nine. Bentley generally contended for priority of degree; alleging, that the disuse of divinity degrees had caused a neglect of study in the college. And most true it is, that when a man is once fellow, though he has all the opportunities in the world for acquiring learning, he has no further incentive. As far as the University is concerned, he has attained his *ultimatum*; no subsequent examination displays his maturer acquirements—elicits how much he may have acquired, or exposes how much he may have forgotten. In Bentley's reign, the preparatory exercises for a Doctor's degree were not absolutely formal. They showed at least that the candidate could still speak Latin. As to the matter of the thesis and disputations, as orthodoxy only allowed one conclusion, and one decision, it never could be much varied. The battle was sold, and who cares how scientific the sparring might be? But Bentley wished that the fellows of Trinity should graduate in the higher faculties, *i. e.*, law, physic, and divinity; and certainly, the words of the statute do, in our disinterested opinion, clearly define the highest graduate, not the senior member, as having the right of preoption. It is a pity that college statutes are not written in English or Latin, or some other intelligible language. At present, they are in a *lingo* that never was spoken on earth, and which can only be justified on the principles of those enthusiasts, who think a language clearly divine, because it was never human.

So passed the first five years of Bentley's mastership. Meanwhile, King William, whose merits as a deliverer were soon forgotten when it was found that a parliamentary king was rather more expensive than a *jure divino* monarch, had died, and Queen Anne, deservedly the favorite of the clergy and of the Universities, succeeded to the undivided allegiance of a then loyal people. She had already gladdened Oxford with her presence, and in 1705, she conceded to Cambridge the costly honor of a royal visitation. A royal visit to a University is, or might be called, *dunce's holiday*, for then degrees are conferred on all whom royalty appoints, without the statutable qualifications and exercises. Upon this occasion Newton knelt down, plain mister, and arose Sir Isaac. It is the glory of knighthood that such a man deigned to accept it, but it must have been a whimsical spectacle to see a woman holding a sword in an assembly of parsons, to bestow upon a man of peace an order essentially military.

About this time Parliament purchased the library of Sir Robert Cotton, a useful collector, whose name is connected with some of the rarest treasures of literature. Bentley, as royal librarian, was entrusted with this welcome charge. Apartments were fitted up for him in Cotton House. He spent a considerable part of every year in town, where his talents obtained admission to the highest circles, and his advancement to the bench was regarded as certain; and certain it might have been, had he possessed the requisite pliancy of temper, for in no age was mere talent, of whatever kind, at so high a premium.

During the year 1707, Edward Viscount Hinchinbrooke, Lord Kingston and his brother, and Sir Charles Kenys, were his private pupils, and inmates of the lodge. For the head of a college to take pupils is a thing now scarcely known, and perhaps never usual. Probably the fellows felt quite as much aggrieved at the injury done to themselves, as at the degradation of the Master's dignity. The tutorship of a noble youth is generally the first step in the ladder of preferment; a good thing in hand, (for such as posse s

the necessary assiduity and suppleness) and a bill upon the future, which seldom fails to be honored. It is not wonderful, therefore, that the fellows of Trinity murmured at the expense incurred on account of the Master's pupils. What they had to pay was probably a trifle, but what they lost in expectation (and every college tutor would set down to his own creditor account the whole possible gain of each titled or honorable pupil, even to the contingent of a mitre, as sure and personal loss) was as large as their hopes or their wishes. At all events, this measure of Bentley's excited much clamor. It would shock a mother of the present water-drinking day, to be informed that the residence of those young gentlemen in the lodge occasioned an alarming increase in the consumption of college ale.

From these and other causes, complaints against Bentley became louder and louder and he was openly taxed with greediness and meanness, in saddling the college with the support of his own boarders, with whom he received not less than 200*l.* a year. He attempted to silence all murmurs by extolling the honor done to the society by these young patricians (which honor, by the way, he pretty well monopolized himself), and by referring to three sash windows which he had put into their apartments at his own expense!

However, regardless of the feelings and purses of the then population of Trinity, Bentley was indefatigable in promoting the glory and welfare of the college as a state. In one year (1706) he laid the foundation of an observatory and of a chemical laboratory. The first was destined to assist the observations of Roger Cotes, first Plumian Professor of Astronomy, of whom, after his early decease, Newton says, "If Cotes had lived, we should have had something." The laboratory was devoted to the researches of the Verone e Vigani, an ingenious foreigner, who cultivated a science but just beginning to deliver itself from the avaricious quackery of the alchemists. Vigani may be called the first Cambridge Lecturer on Chemistry; and no successor was appointed for some years after his death. It was Bentley's design to make his college the focus of all the science and information in the kingdom, and to make it an edifice worthy of the learning he wished it to contain. But even the most obvious improvements were regarded with an eye of suspicion; and his taste for architecture, which he gratified unscrupulously at the college expense, incurred great, and not altogether unfounded, odium. His own lodge he had repaired, or rather re-edified, at a cost originally calculated at 200*l.*, but which amounted to somewhere about 1,000*l.*, exclusive of a new staircase, which he erected in defiance of the direct refusal of the Bursar (the academic chancellor of the exchequer), and unsanctioned by the Seniors. For this staircase the fellows absolutely denied payment. But Bentley had, as he expressed it, "a rusty sword, wherewith he subdued all opposition." This was an obsolete statute, compelling the whole body of fellows to almost perpetual residence. Were all corporations invested with a power to accommodate their institutes to ever-changing circumstances, and did they make a wise and provident use of that power, law would not so often be the power of iniquity. By the terrors of the "rusty sword," and other threats of a like nature, the autocrat of Trinity at length enforced the discharge of a debt of 350*l.*, incurred against the consent of those who had to pay it. Nor were the stretches of his authority confined to matters of finance. In the distribution of honors, offices, and preferments; in the infliction of penalties, even to confiscation and exile (so far as he could inflict them), he was equally arbitrary. Whoever opposed him was certain to be excluded from every reward of merit, and to receive something more than justice for the first alleged offence. That his severer measures were absolutely and substantially unjust is by no means clear; but he pro-

ceeded to extremities without either consulting his legal assessors, or even waiting for legally convicting evidence. Of two fellows, whom he expelled in 1703, the guilt admits of little doubt, for one of them, John Wyvil, confessed to the act of purloining and melting down the college plate; the other, John Durant Brevel, hereafter designed to figure along with Bentley himself in the *Dunciad*, was more than suspected of what (Christian) men call adultery, and (heathen) gods, a platonic friendship for a married lady. But they were both punished unconstitutionally by the Master's sole prerogative, and their offences were forgotten in the danger of liberty.

The fellows of Trinity only waited for a tangible pretext, and a bold leader, to throw off that allegiance which they conceived to be forfeited by lawless tyranny. The pretext occurred in Bentley's project for a new division of the college funds. The leader appeared in the person of Miller, a lay fellow, and a rising barrister, who was accustomed to visit his University friends at the Christmas vacation, and chanced to come just when this revolutionary proposal of the Master's had struck "a panic of property."

In order to comprehend the nature and extent of the change contemplated, it is necessary to state that the original endowment allotted to each fellow, free chambers and commons, with stipends varying according to their degrees, viz.:—for a Doctor of Divinity, 5*l.*; a Bachelor of Divinity, 4*l.*; a Master of Arts, 2*l.* 13*s.* 4*d.* These, with a small sum for dress, were the whole emoluments for fellowship. As these sums became insufficient, through the depreciation of money, and as the college funds increased, several alterations had taken place in the distribution, not necessary to be here recounted; in particular, the advance in the value of a fellowship was made to depend upon standing solely, without any regard to superiority of degree, which removed one great incentive to graduate in the higher faculties. Now it was Bentley's plan to restore the original ratio, by multiplying the sum mentioned in the statutes by ten, so as to give 50*l.* to a Doctor, 40*l.* to a Bachelor of Divinity, and 26*l.* 13*s.* 4*d.* to a Master of Arts:—but of course the Master's own stipend was to be settled according to the same proportion. Now the original foundation allotted the Master 100*l.* for stipend and commons together, without specifying how much should be reckoned for stipend alone. Bentley chose to state it as 85*l.*; but as a demand for 850*l.* "at one fell swoop" was rather too alarming, he offered to content himself with 800*l.* This being resisted, he lowered his claims to 400*l.*; and then to 200*l.*, which, of itself, was not unreasonable; and had it covered the whole of his estimates, it is probable that the measure might have been carried, and peace restored to the society. But the worst was behind. By regular custom, the master was supplied with certain articles, as bread, beer, coals, candle, oil, linen, etc., from the public stock, and no definite limit had been set to his consumption. Bentley's enormous demands in these particulars, which really seem incredible, had given rise to much clamor, and must have been intended to reconcile the college to any mode he might suggest of getting rid of a burden at once exorbitant and uncertain. He offered, therefore to accept 700*l.* a year in lieu of all allowances. The mere amount of the demand was not the only objection. It tended to make him altogether independent of the seniority. The *budget*, therefore, when first introduced, in 1703, had a very cold reception. He had recourse to various methods to procure its adoption; altered several details, but always came to the same conclusion as to the sum total. The fellows continued to demur. He endeavored to promote a petition in favor of his budget among the junior fellows—a measure not likely to conciliate the seniority. At length he had recourse to the violent expedient of stopping the supplies, and was just proceeding to

extremities when Miller arrived, at the conclusion of 1709, to raise the standard of open revolt. He declared the Master's demands to be altogether unreasonable, and suggested the possibility of obtaining redress by appealing to a higher authority. Bentley was not the man to yield to menace. Conference followed conference. Ill blood and ill language ensued. The Master denounced lawyers as the most ignominious people in the universe—told one senior fellow that he would die in his shoes, and called another “the college dog;” and finally pronounced his fatal malediction—“From henceforward, farewell peace to Trinity College.” So saying, he set off for London.

No sooner was he gone than Miller, conceiving that the Master intended to petition the queen in council, advised his comrades to have the first word, and lay their complaints before a competent authority. He drew up a statement of grievances, which was subscribed by the sixteen senior fellows present in college, and by eight of the juniors, notwithstanding some objection from Dr. Colbatch, Professor of Casuistry, who, as he was the slowest to enter into the quarrel, was the most perseverant in prosecuting it. No sooner was Bentley informed of this unexpected step, than he hastened back from town “with the speed of a general who hears of a mutiny among his troops during his absence, and resolves to arrest its progress by making a summary example of the ringleaders.” On the 18th of January he caused Miller's name to be struck off the college boards. On the 19th it was restored by the Vice-Master and eight seniors; and on the 24th it was again struck off by Bentley. Compromise became hopeless, and both parties flew to arms.

For all important disputes which can arise in the different colleges, about forty-five in number, which compose the English universities, the final appeal lies to the visitor. In the present case a difficulty arose as to who was visitor. The statutes of Edward VI. appoint the Bishop of Ely to that function. Those of Elizabeth are silent as to the general right of visitation, which might therefore be presumed to abide in the crown as representative of the founder; but by the fortieth article the Bishop of Ely is appointed visitor in case of misconduct on the part of the master. To this prelate, then Bishop Moore, an early friend of Bentley, and munificent patron of literature, a petition was addressed, containing a summary in fifty-four articles, in the form of interrogatory, of Bentley's real and supposed misdemeanors, signed by the Vice-Master and twenty-nine fellows. Many of the counts may be fairly pronounced frivolous and vexatious. . . . The articles were published under the form of a pamphlet, and Bentley replied in a printed address to the Bishop, whose jurisdiction he nevertheless denied, a composition of more acerbity than elegance, containing more recrimination than explanation, and throwing the onus of the quarrel on the sottish habits and Jacobite politics of his opponents.

The Doctor had not scrupled to assert that the poverty which the fellows of Trinity ascribed to his exactions was wholly owing to the additional tax on claret; and his lady did not fail to take the advantage which a female reign always affords to scandal in the guise of morality. But the main manager in the matter was Harley, the Lord Treasurer, a circuitous fine gentleman, to whom Bentley addressed a *projet* of a royal letter, in which every point was decided in his own favor, and the Master enjoined “to chastise all license among the fellows.” But such downright dealing did not accord with the views of the wily politician. It is uncertain whether this bold stroke came to the ears of the enemy, but certain it is that, on the twenty-first of November, Bentley received a peremptory summons to answer the articles against him by the eighteenth of December.

Bentley, being thus at bay, at first thought of appealing to Convocation ; but, finding that he was likely to be anticipated in that quarter, and perhaps expecting little favor from his brethren of the clergy, he resolved on a petition to the Queen, setting forth that her Majesty, as representative of the royal founder, was the rightful visitor, and that the assumption of the visitatorial functions by a subject was an invasion of her prerogative ; finally throwing himself and his cause on her Majesty's protection. This petition met with immediate attention. Mr. Secretary St John directed the Attorney and Solicitor-General to examine the allegations on both sides, and make a report thereon with all convenient speed. At the same time the Attorney-General was to signify to the Bishop of Ely her Majesty's pleasure that all proceedings be staid till the question should be decided in whom the right of visitation lay. Bishop Moore, in his reply, expressed a cheerful acquiescence and confidence that her Majesty would never deprive him of any right belonging to his See. The 2d January, 1710-11, was appointed for hearing the cause. Sir Peter King, afterwards Lord Chancellor, and Mr. Miller, appeared as counsel for the fellows. No less than five months elapsed before the law officers could make their report to government. This document delivers a cautious opinion that the master is subject to the jurisdiction of the Bishop of Ely, whereupon Bentley memorialized the Prime Minister, Harley (who had just been created Earl of Oxford and Lord High Treasurer), asking for a direct interposition of the crown in his own favor. The result of this memorial was an order from the Minister, that the report of the Attorney and Solicitor-General be laid before the Lord Keeper, Sir Simon Harcourt, and all the crown lawyers ; and a letter from Secretary St. John to Bishop Moore, signifying her Majesty's desire that all proceedings should be staid. Thus the leaning of government was sufficiently obvious, and Bentley secured sufficient respite to set the last hand to his *Horace*. We hear no more of the college quarrels during the remainder of 1711 ; nor did the prosecution advance much more rapidly in the course of 1712. The crown lawyers, after more than seven months' deliberation, decided, January 9, that the crown was Visitor-General of the College, but that the Bishop of Ely possessed, under the 40th statute, the power of hearing and deciding upon the charges against the Master ; adding, that it was in the power of the crown, with consent of the college, to alter the visitatorial authority.

The crown did not interfere, the interdict continued, and the fellows looked for relief in the reports which were circulated that Bentley was to be appointed to the Deanery of Lichfield. But in the meantime the Master was not idle. He determined to starve his opponents to a surrender, and to show the fellows that, if they were not content to receive what he chose, in such proportion as he chose, and allow him to appropriate as much as he chose, they should have nothing at all. Having manœuvred poor old Stubbe, the senior of his opponents, out of the Vice-Mastership, and put a more manageable person in his place, he proceeded, at the Winter audit, 1712-13, to interdict a dividend, unless his plan of distribution was accepted. Thus writes the aged ex-Vice-Master to the Earl of Oxford :—"Dr. Bentley, I hear, at the auditing of our college accounts, refused to vote a dividend of the remaining money, in order to starve the poor members into an acquiescence under his base and unworthy measures. Our college, my lord, though it be dutiful and silent, is in a very wretched condition ; and if your lordship please to look upon it with compassion, you will be a second founder to us. My lord, I cannot ask pardon for this without remembering my former offences of this nature ; but I cannot doubt either of your lordship's pardon, or of the success of my petition, when I consider that I speak for a nursery

of learning to my Lord of Oxford." Whether Harley, who prided himself in the reputation of a Mæcenas, was touched with compassion, or cajoled by flattery, to interest himself for the starving fellows, or whether he only prescribed patience, a cruel prescription to the hungry, we know not. Certainly Bentley's expectations of submission from his opponents, and of protracted interposition from the minister, were disappointed. Miller would be put off no longer, and resolved to bring the matter before the Court of Queen's Bench. Stubbe apprised the Treasurer that all endeavors to prevent the cause coming to a hearing would probably be vain, as the court would not allow the validity of the royal, or, in good sooth, ministerial prohibition, while the discussion of a point of prerogative could do little good to a tottering administration; which argument, whether urged by the ex-Vice-Master or not, determined the ministry to take off the embargo, and Secretary St. John, now Lord Bolingbroke, wrote to Bishop Moore, "giving him the Queen's permission to proceed as far as by law he was empowered." Before the end of the Easter Term, 1713, the affair of Trinity College was first brought into court by Mr. Page* obtaining a rule for the Bishop to show cause why a mandamus should not issue to compel him to discharge his judicial functions. After a full year's delay, arising partly from forms of law, of which delay appears to be the only assignable object, and partly from the avocations of the Judges and the disturbed state of the nation, in the month of May, 1714, the trial of Bentley actually commenced. The large hall of Ely House was converted into a court of justice, where written evidence was produced in support and refutation of the fifty-four articles against the Master of Trinity College, which being put into an interrogatory form, they read sometimes rather ludicrously. As *e. g.* conceive the following questions put by a learned Judge, or Reverend Bishop, to a Doctor of Divinity, a public guardian of the moral, manners, and orthodoxy of ingenuous youth: 32. "Why did you use scurrilous words and language to several of the fellows, particularly by calling Mr. Eden an ass, and Mr. Rashleigh the college dog: by telling Mr. Cock he *would die in his shoes*, and calling many others *fools* and *sots*, and other scurrilous names?" Or, 33, "Why did you profanely and blasphemously use and apply several expressions in the Scripture? As 'he that honors me, him will I honor.' 'I set life or death before you, choose you whether,' or to that effect." Or, 12, "When by false and base practices, as by threatening to bring letters from court, visitations, and the like, and at other times by boasting of your great interest and acquaintance, and that you were the genius of the age, . . . why, &c.?" Or, 10, "Why have you, for many years past, wasted the college bread, ale, beer, coals, wood, turf, sedge, charcoal, linen, pewter, corn, flour, brawn, and bran, viz., 40,000 penny loaves, 60,000 half-penny loaves, 14,000 gallons of ale, 20,000 gallons of beer, 600 chaldron of coals, 60,000 billets of wood, 1,000 hundreds of turf, 100 loads of sedge, 500 bushels of charcoal, 100 ells of Holland, 400 ells of diaper and other linen, 5,000 ounces of pewter, 200 bushels of corn, 400 bushels of flour, 300 bushels of bran, and other goods to the value of 3,000^l. or other great sum, in expending the same, not only on yourself, but upon your wife, children, and boarders, and that in a very extravagant manner, by causing your servants to make whole mea's upon the

* This Page was afterwards a Judge of "hanging" notoriety, whom Pope has "damn'd to everlasting fame."

"Poison, or slander dread, from Delia's rage,
Hard words, or hanging, if your Judge be Page."

IMITATIONS OF HORACE.

"And dies, if Dullness gives her Page the word."

DUNCIAD.

said college bread and beer only (you not allowing them either flesh, cheese, or butter with the same), and by many other ways?" We presume that these counts were not read aloud in Ely House in the presence of the accused, as the whole business was conducted by written affidavits, whereof no less than twenty-seven were sworn against the Master, nor does it appear that any one of the complainants declined to support his signature upon oath.

The first and second articles refer to the Master's appropriation of certain sums, which of right belonged to his predecessor, and to the misapplication of the said sums. The third, fourth, fifth, sixth, and seventh, to the expenditure in rebuilding and fitting up the Lodge, which is roundly stated at 1,500*l.*, and to the unwarrantable means taken to enforce payment of the same. The seventh goes so far as to charge Bentley with obtaining money under pretence of paying workmen, and diverting it to other purposes.

The ninth, absurdly enough, asks Dr. Bentley why he married; and why, having married, he brought his wife into college. It is wonderful that some of his prosecutors should hazard a question which might have been retorted with such bitter effect upon themselves; and somewhat remarkable how unwillingly Queen Elizabeth permitted the marriage of the clergy.

The tenth, thirtieth, thirty-first and forty-fourth, relate to waste of the college goods, and exorbitant demands upon its funds. The twelfth and thirteenth, to the staircase business (a discreditable job altogether). The fourteenth, to the allotment of college chambers (*seems* frivolous at this distance of time, but might be very serious at the commencement of the last century). The fifteenth, to unlawful interference with the appointment of officers, in which the Master appears to have been culpable and inconsistent. The seventeenth, eighteenth, nineteenth, twentieth, twenty-first, twenty-sixth, and twenty-seventh, to punishments inflicted without due conviction, or the consent of the seniority. The twenty-second regards the expulsion of Miller. The twenty-third, fortieth, and fifty-second, allege certain irregularities and omissions in the chapel service (which, for any spiritual benefit derived from it, might as well be omitted altogether). As for the "founder's prayers," Bentley was quite right in letting them alone; for they are a mere apology for masses, and where the belief of purgatory does not obtain, have no meaning whatever. The forty-third and forty-fourth articles relate to the new scheme of dividends. The thirty-seventh and forty-seventh, to the bowling-green, and another plot of ground, which Bentley had used according to his pleasure, asserting himself "to be Lord of the soil." The fifty-third complains of the observatory; one or two others, of the expense incurred in renovating the chapel and purchasing an organ; and the rest relate either to mere repetitions of former offences, or to matters of college regulation, such as the Friday's supper, the declamations in chapel, the permission to quit table before grace, and the like.

On a dispassionate review of these articles, it appears that they amount to a sort of accumulative treason against the state and liberties of Trinity College. By far the greater part of them are trifling, yet, altogether, they prove, beyond contradiction, that Bentley's views extended to absolute sovereignty, that he deemed himself irresponsible, treated the college estate as if no individual but himself had a freehold therein, and did not condescend to observe those formalities which, by a true college man, are regarded as essential to academic existence.

[After a full hearing, the Bishop, as Visitor, was about to pronounce an opinion convicting the Master of violating the statutes and wasting the goods of the college, when the entire proceedings were arrested by his death, July 31, 1714.]

Bentley's Literary Labors—1702-1704.

Before resuming our narrative of this inter-collegiate controversy, we will glance at Bentley's literary labors during the turmoil of his Mastership.* Strife and trouble seem to have been congenial to his faculties; controversy was a stimulus without which he would have slumbered. He was naturally a bird of tempest. This feature in his career was happily hit off by Arbuthnot in a squib, written in professed imitation of Swift's manner, entitled 'An Account of the State of Learning in the Empire of Lilliput, together with the History and Character of Bullum, the Emperor's Library Keeper:' "Bullum is a tall, raw-toned man, I believe near six inches and a half high. From his infancy he applied himself with great industry to the old Blefuscudian language, in which he made such a progress that he almost forgot his native Lilliputian; and at this time he can neither write nor speak two sentences without a mixture of old Blefuscudian. These qualifications, joined to an undaunted forward spirit, and a few good friends, prevailed with the Emperor's grandfather to make him keeper of his library, and a Mulro in the Gomflastru, though most men thought him fitter to be one of the Royal Guards. These places soon helped him to riches, and upon the strength of them he soon began to despise everybody, and to be despised by everybody. This engaged him in many quarrels, which he managed in a very odd manner; whenever he thought himself affronted, he immediately *flung a great book at his adversary*, and, if he could, felled him to the earth; but if his adversary stood his ground, and flung another book at him, which was sometimes done with great violence, then he complained to the Grand Justiciary, that these affronts were designed to the Emperor, and that he was singled out only as being the Emperor's servant. By this trick he got that great officer to his side, which made his enemies cautious, and him insolent. Bullum attended the court some years, but could not get into a higher post; for though he constantly wore the heels of his shoes high or low, as the fashion was, yet having a long back and a stiff neck, he never could, with any dexterity, creep under the stick which the Emperor or the chief minister held. As to his dancing on a rope, I shall speak of it presently; but the greatest skill in that art will not procure a man a place at court without some agility at the stick."

In this interval Bentley contributed some highly esteemed emendations to Davies' *Tusculan Questions*, supported by able notes, and a body of conjectural alterations to Needham's edition of Hierocles on the golden verses of Pythagoras. In 1709 he procured a reprint of Newton's *Principia* at the

* Perhaps there was no situation in the world for which he was so unfitted as the headship of a college. Even his learning was not of that quality which is required in a preceptor or guide of juvenile studies; for his mind was too rapid to wait upon the slow development of ordinary comprehensions. He had an exquisite tact, an intuitive perception of the possibilities of language, but he had little feeling for the beauties of thought and imagery, and still less sympathy for the minds of others. He had probably quite forgotten what it was to be a learner, and could not sympathetically discover the cause of a difficulty arising from the intellectual constitution of an individual, though, as in the case of Hemsterhuis, he would infallibly indicate a deficiency of positive knowledge on any given topic. In a word, he could point out what was to be learned, but he could not teach.

How different a being was Aldritch, the very ideal of a college head, who made those who would not have loved learning for its own sake, love it for his, who was better pleased to elicit the talents of others than to display his own—who made even logic amiable, by proving that it was no foe to good fellowship—who regulated conviviality by making himself its moving principle—planned the Peck-water, loved his pipe, and composed "the bonny Christ Church bells."

University press. In 1710 he became involved in a controversy with John Le Clerc and Gronovius, by his *Emendations of Menander and Philemon*. In December of the same year he issued his edition of Horace, with a dedication to Lord Oxford, which was originally intended for Lord Halifax, but the ministry changing, it was given to Harley. Its appearance was the signal for a fresh list of critics and animadvertisers. One of them, Dr. King, (who had taken part in the former controversy on Phalaris—being reproached for his want of reading, claimed that he had read more than any man in England besides Bentley, inasmuch as he had read his book all through)—describes Horace as visiting England according to his own prophecy, and taking up his abode in Trinity College, where he puts all to confusion, consumes immoderate quantities of college bread and ale, and grows immensely fat. *Epicuri de grege porcus*. John Ker and Johnson of Nottingham, two schoolmasters of wide reputation, and Alexander Cunningham, a learned Scotchman, attacked the temerity of Bentley's *Emendations*. The intrusion of the conjectural readings into the text has been censured as altogether unwarrantable. Many of them go to crop the most delicate flowers of Horatian fancy, and sheer away the love-locks which the world has doted on. The value of the work consists in the extraordinary display of learning and ingenuity which the defence of these innovations called forth, in the skilful allegation of parallel passages, in the wonderful adroitness with which every line and every letter that supports the proposed change is hunted out from the obscurest corners of Roman literature, and made to bear on the case in point, and in the logical dexterity with which apparent objections are turned into confirmations.

Soon after the publication of the Horace, Bentley exposed the affectation of reading and scholarship in Anthony Collins's '*Discourse of Freethinking*,' in his '*Reply*,' which did Christianity a real service by showing that the alleged variations in the Scriptures did not affect the sense at all. But it was not till he was again involved in his college squabble that he entered on a book which he did not live to complete—the restoration of the text of the Greek Testament exactly as it was at the time of the Council of Nice.

Revival of Trinity College Quarrel.

As all proceedings were by the decease of the Visitor rendered null and void, the parties now stood *in statu quo ante bellum*; and a fair opportunity offered to conclude a lasting peace on the basis of mutual concession. No less than six of the original prosecutors had died during the progress of the suit, and of those that remained, few possessed vigor, talent, funds, or influence, to contend against the Master. Middleton, the ablest subscriber of the original petition, had ceased to be a fellow, and was yet unknown beyond the circle of his acquaintance, who, perhaps, little expected that "Fiddling Conyers," as Bentley contemptuously called him, would achieve a high name in English literature. A temporary pacification was concluded. The scheme of dividends and compensation was allowed to drop, but for all besides, Bentley was as despotic as ever. All offices were bestowed at his discretion; to oppose him was to forswear promotion. After the death of Dr. Smith, Modd, a convenient nonentity, who had not taken the statutable degrees, was made Vice-Master; Bathurst, who was almost blind, Bursar; and Hanbury, whom the Doctor himself had charged with drunkenness, was appointed to superintend the morals of the students, in the quality of senior Dean. In thus advancing notoriously incompetent persons to posts of responsibility, he not only excluded such as he could less easily manage, but in effect got the whole college administration into his own hands. Modd had nothing to

do but respond Amen to *his* master's proposition, and as Bathurst *could* not see the accounts, and nobody else was allowed to look at them, it followed that the whole power of the purse, without check or limit, was in the Doctor's hands.

As, however, he could not think his reign secure while Miller remained a member of the college, he sought a fresh pretext to oust the lawyer. On a former occasion he had cut his name out of the buttry-boards, because, not being a physician, he held a medical fellowship. Now he urged, with more show of justice, that Miller, possessing a pretty estate, fell under the statute which excludes all persons holding any ecclesiastical preferment whatever, college preacherships excepted, or any property to the amount of 10*l.* a year, from the benefit of the college. But unluckily it happened that Bentley, not long before, had refused to accept the resignation of a gentleman of 10,000*l.* a year, saying that people of property were very useful members of the society. Miller met this attempt with a petition, and a new set of articles, differing little from the former; but the new Bishop of Ely, Fleetwood, refused to take cognizance of the case, unless his right to be General Visitor was ascertained. He would not visit the Master unless he might visit the fellows also, and so for a time the matter rested. A little while before this, Bentley had delivered a visitation charge, in his capacity of Archdeacon of Ely, in which he did not quite satisfy the passionate admirers of the new dynasty; for though he called King George Antoninus, he admitted that it was impossible for a foreign prince, newly imported, not to commit *some* errors. Miller, who was an intolerant Whig, represented this as sedition, and a sufficient ground of expulsion; but there was no getting Bishop Fleetwood to stir. The expression, however, did the Archdeacon no good at court, where his enemies made the most of his dedication to Harley, now in the Tower on a charge of high treason. But Bentley managed his political relations with great skill, and availed himself of every feasible opportunity to express his loyalty to the Government *de facto*, whether it were Whig or Tory.

Oxford, retaining a traditionary affection for the grandson of Charles I., almost approved the conduct of her Chancellor, the Duke of Ormond, who had joined the *Pretender*, by electing his brother, the Earl of Arran, in his room. Cambridge, less devoted to the exiles, was yet coldly affected towards the Whig domination, and reinstated her Tory representatives at the general election of 1715. Riots took place on the *Pretender's* birthday, and again on that of King George, and some young gowmsmen broke windows, and cried "No Hanover." This the Vice-Chancellor prudently considered merely as a breach of discipline; but it was judged expedient that the Senatus Academicus should express their attachment to constitutional monarchy, in the Protestant line, by a formal act. An address was got up, declaring that they had ever acknowledged King George as their rightful sovereign, reminding him of his promises, and engaging in turn to train up the youth in the way they should go, "that they might show in their conduct an example of that loyalty and obedience which this University, *pursuing the doctrines of our Church*, has ever maintained." This testimonial seems to have been well timed, for it gained from the king a present of Bishop Moore's magnificent library, consisting of 30,000 volumes, which, at Lord Townend's suggestion, had been purchased by the crown for 6,000*l.*, while the sister University was insulted by being placed under military surveillance. On this occasion appeared the well known epigram by an unknown hand :

King George, observing with judicious eyes
The state of both his Universities,

To Oxford sent a troop of horse, and why?—
 That learned body wanted loyalty:
 To Cambridge books he sent, as well discerning
 How much that loyal body wanted learning.

Retaliated by Sir W. Browne, founder of the prizes for odes and epigrams:

The King to Oxford sent a troop of horse,
 For Tories own no argument but force;
 With equal skill to Cambridge books he sent,
 For Whigs admit no force but argument.

We left Trinity College in the year 1714 still divided against itself; but the determined refusal of Bishop Fleetwood to act as Visitor cut off the discontented party from all hope of redress, and Bentley's main endeavors were directed to the exclusion of Miller, whom he regarded as the ringleader of the mal-contents, who would do everything in his power to keep alive the spirit of resistance. But asolute as he was, he could not forcibly expel the obnoxious serjeant, though he withheld all the emoluments of his fellowship.

Three men of very different tempers, talents, and principles, seem to have been ordained to oppose this supremacy of Bentley. These were Miller, Middleton, and Colbatch. Of these the first was a lawyer and a politician, with a political conscience, who espoused the cause of his college with an eye to the advantage which an important suit always affords to a rising counsel, and to the *éclat* which an ambitious man derives from opposition to an unpopular authority. Middleton, who, ceasing to be a fellow in the very earliest stage of the process, had no personal interest in the quarrel, was probably incited to make it his own by some private pique at the Master, who used to call him "Fiddling Conyers," and probably evinced little respect for his talents, great as they afterwards proved. Of all Bentley's literary opponents he was the most formidable, and the least scrupulous: he was a man of the world. Dr. John Colbatch was a dry, grave, honest man, with a *strong*, rather than a *fine*, sense of rectitude; an inflexible stickler for right, a strict and literal expounder of the moral law, a zealous advocate for the *letter* as well as the *spirit*; somewhat of a Martinet in matters of discipline, whose resolution, once taken, became part and parcel of his conscience, and who never forgave an offence against himself if he deemed it an offence against justice. His naturally saturnine temperament had been darkened by successive disappointments; for after holding the honorable station of chaplain to the British factory at Lisbon, and gaining the approbation of Queen Mary by a work on the religion and literature of Portugal, he became, by especial request, a private tutor, first to the son of Bishop Burnet, and afterwards in the family of the "proud Duke" of Somerset; yet at forty was obliged to return to his college with no other subsistence than his fellowship, and a prebend of Salisbury of 20*l.* value. If, however, as Middleton asserts, his virtue was deemed "too severe," and had "something disagreeable about it," it was no wonder if he failed to profit by the acquaintance of the great. To make available the patronage of courtly bishops and *proud* dukes, other qualifications are necessary, besides severely disagreeable virtue. He considered himself an injured man, for speaking of the neglect he had experienced, he said, "that the hardships he suffered were aggravated by some circumstances which must lie infinitely heavier, and sink deeper into an ingenuous mind, than any temporal loss or inconvenience whatever." Perhaps he sometimes mistook a personal resentment for righteous indignation. The University made him some amends by appointing him, in 1707, Professor of Casuistry; and had he not come in collision with Bentley, he would probably have grown gray in the study of civil law and ecclesiastical

antiquity; his favorite researches produced profound and unreadable treatises, and he died a senior fellow.

It was Bentley's determination to be himself the fountain of honor and profit to all his subjects. He did not even allow a gradation of patronage, but interfered as decidedly in the appointment of college servants as in the elections to scholarships and fellowships. He made his own coachman porter, and afterwards bestowed the same office (the importance and pickings of which no one who has not had the benefit of a University education can calculate) on that coachman's son, a lad of fifteen.

Attached to the foundation of Trinity College, are twenty *pauperes*, or beadsmen, endowed with a yearly salary of 6*l.*, and a suit of livery, which was once a respectable competence, and would still be a valuable assistance to a decayed housekeeper of respectable character. Bentley bestowed one of these pensions on an ale-house keeper, who could scarcely be supposed to want it, and another on one Joseph Lindsay, a notorious blackguard, and leader of the Tory mob in the riots on the Pretender's birthday. It is difficult, at this distance of time, to assign the motive to such a flagrant abuse of a commendable charity.

The statutes direct that no lease shall be sealed, nor the presentation to any preferment made out, but in presence of the sixteen senior fellows or their representatives. Two small livings falling vacant about the same time, Bentley disposed of them, not only without observing the above-mentioned form, but contrary to routine, and, it was asserted, for private considerations.

A heavier cause of complaint was, his never submitting the college accounts to the inspection of those whose right and duty it was to overlook and check them; asserting, either that it was too early, or that the time was past—averring statute against custom, or custom against statute, or expediency and his own prerogative against both, as suited his purpose. There was an ancient ordinance, that, if the eight seniors (the legal council of the Master, without whose consent none of his acts were esteemed of more validity than those of the King apart from his council, in the English constitution) were divided among themselves, (*in p'ures partes divisi sunt*), the question should be decided according to the vote of the Master. This could only have been intended to give the Master a casting vote in case of an equal division; but the lax clumsiness of its expression gave Bentley a pretext for asserting that, unless the eight were unanimous against him, his proposal, if singly seconded, must prevail. By this means it became almost morally impossible to oppose him; draught after draught on the college treasury was paid, and yet there was no end of his demands; and as he was not less liberal or able to reward those who aided his purpose, than he was sure and powerful to crush whatever intercepted his path, the small band of recusants met with few recruits among their immediate juniors, and the new fellows introduced by Bentley had little sympathy with the aggrieved elders. They were for the most part, either his own connections and dependents, or young men of high classical attainments, whom a community of studies naturally inclined to his interests. Thus the old fellows were somewhat in the situation of an aboriginal people driven from their ancestral possessions by an intruding colony. In vain did Colbatch protest and remonstrate, and call out for a visitation. The *vis inertiae* of Bishop Fleetwood was not to be overcome.

In this juncture Archbishop Wake, informed of the lamentable discord and consequent relaxation of discipline in the largest academical institution of Britain, advised a petition to the King to ascertain where the visitatorial right was. A petition was at once signed by nineteen fellows, and committed

to Miller. The petition was read in Council, when Bishop Fleetwood offered to resign the visitatorial power to the Crown, the consideration of which offer occupied three years, and in the meantime the petition was in the Attorney-General's pocket.

To get rid of the obnoxious Miller, who at the regular election in September attempted to exercise his right as fellow, Bentley called a couple of constables, forced him out of the Lodge, and detained him in custody till the election was over. He succeeded in filling the vacancies with 'three scholars and two nephews,' all of his way of thinking. At this point Bentley soon discovered that his enemy (Miller) had done just what he wished—written a book on the state of the University, and in it 'uttered a false, scandalous, and malicious libel' against the University, in consequence of which Miller was deprived of his Deputy-high-stewardship, and which a few years later (1720) inclined him to a compromise—by which he was paid one half his dues as a fellow, together with his room rent, and 400*l*. for his law expenses—he resigning his fellowship and withdrawing his own petition and that of Colbatch. These sums were paid out of the College treasury, together with Bentley's own cost, and 400*l*. for the charges of his defence.

In 1717, by a ruse worthy the most unscrupulous politician, Bentley became Regius Professor of Divinity. In this capacity the 'Divine Professor' committed new outrages on the college statutes, turning the old dove-cote into a granary so as to raise out of his Somersham tithe-corn, and other livings, the 40*l*. stipend to 600*l*. But in exacting from his old enemy, Conyers Middleton, (on his being created one of the Royal Doctors on the occasion of King George's visit,) a four guinea fee, Dr. Bentley involved himself in a controversy which lasted three years, and in its progress he found himself the ruler of the first college without a vote in the Senate, and the highest teacher of theology forbidden to enter the University pulpit. He put himself in contempt to the University authorities, in consequence of which the Master of Trinity College and Regius Professor of Divinity was degraded from all his degrees, and reduced to a mere *Harry Soph*. And out of this complication grew another crop of pamphlets—the Vice-Chancellor and Bentley appeared before the King in Council—Middleton was tried before the King's Bench and found guilty of libel; Colbatch got involved in another law-suit, was fined for contempt of court; and after ten years Dr. Middleton got back his four guineas with interest; and in 1734 Bentley was solemnly declared guilty of dilapidating the goods of the college and of violating its statutes—having in the meantime obtained a complete reversal of all the University proceedings against him, and a peremptory mandamus issued to the Chancellor to restore him to all his degrees, and to every other right and privilege of which he had been deprived. But the sentence of the Visitor was never executed. Although all sorts of writs were issued, Bentley held on, working at his edition of Homer, and showing himself devoid of all genuine poetic feeling, as well as of all critical knowledge of his own language, by his emendations of the text of Milton's *Paradise Lost*.

In January, 1742, Dr. Bentley completed his eightieth year; in June he presided as Master of Trinity at the examination for University scholarships, and on the 14th of July, 1742, he expired.

[We have devoted this comparatively large space to the Mastership of Trinity College, mainly because of the light it throws on the wretched system of University organization, and the deplorable waste of academic endowments on Heads, Professors, and Fellows, who have little or nothing to do with academical duties, and contribute nothing to the progress of literature and science, as things were managed at least, in the last century.]

THE DEVELOPMENT OF RELIGIOUS INSTITUTIONS IN THE UNITED STATES,
UNDER THE VOLUNTARY SYSTEM OF EQUAL RELIGIOUS RIGHTS
TO ALL, WITHOUT STATE PREFERENCES OR STATE
SUPPORT TO ANY FORM OF FAITH.

GIVING

A condensed summary of the origin, rise, progress, growth, doctrines, and present condition of each religious sect and denomination in the United States, explaining, from the writings of each, the points in which they differ from the others, and giving the localities in which they are most numerous. To which is added the progress and present condition of each denomination in the education of the ministry, in denominational or sectarian schools, in Sunday schools, in the number and elegance of their houses of worship, and in the support of Home and Foreign Missions, Bible, Tract, and Publication Societies, and other benevolent and charitable institutions, entirely devoid of sectarianism.

The Growth and Progress of Religious Denominations in the United States for the past Hundred Years.

The religious character of the Colonies in 1770, was substantially that which had been imposed on them at the time of their first settlement, and was of necessity very diverse in different sections. Massachusetts and Connecticut, (or rather the different colonies which had united under these names) had been founded by the Puritans or Independents, seceders from the Church of England, who had organized sometimes as independent churches during the reigns of James I. and Charles I. These were, in 1770, the predominant churches—"the standing order," as they were termed, and the established religious body of the colonies, though Episcopalians, Baptists, a few Methodists, and a considerable number of "Separates" were tolerated, and by "signing off" or avowing themselves adherents to one or the other of these denominations, and pledging themselves to sustain it, their ecclesiastical taxes could be, in part, remitted. The "Separates" were mainly converts under the preaching of Whitfield and his followers in 1740-50, who were opposed to an established church, and believed in the voluntary system. Maine was largely settled from Massachusetts, and followed its lead in religious matters. New Hampshire had two distinct religious elements in its early settlement—the Puritan or Congregational—and the Presbyterian, represented by the Protestant Irish settlers of several of its towns. At the period we speak of there was a larger measure of toleration of other denominations there than in Massachusetts. Rhode Island had been settled by Baptists driven from Massachusetts a hundred and forty years before, on account of their avowal of their religious belief. It was the only one of the New England colonies in which, even at that time (1770,) there was complete liberty of conscience, and its population were of all denominations, Baptists, Quakers, Separates, Independents, Presbyterians, Episcopalians, Roman Catholics, Fifth Monarchy Men, etc., etc. Vermont, or "New Hamp-

shire Grants," was not an independent State till after the Revolution, and its few inhabitants were of all shades of religious belief, or of none, at this time. New York, originally settled by the Dutch, had had the Reformed Dutch or Holland Church for its established church till 1684, but after its conquest by the English the church of England had in turn become the established religion, and under some of the colonial governors, Presbyterians, Baptists, and Quakers were persecuted and imprisoned. This persecution had, however, ceased some years before this period, and though the Episcopal church was still the state church, its prestige waned subsequently during the years of the revolution, from the fact that, in that colony, the greater part of its members were tories, and sympathizers with the British. The Presbyterians were considerably numerous in New York, the Baptists and Methodists less so, and there were a few Roman Catholics.

Pennsylvania had been settled by the Quaker Penn, for a refuge for the sorely persecuted Quakers of England and America, but it was open to all denominations, and to those who had no religious beliefs. The Quakers or Friends were predominant in numbers, but Episcopalians, Presbyterians, Baptists, Methodists, Lutherans, and Roman Catholics, were all received cordially.

New Jersey and Delaware had a moderate Swedish and Danish (Lutheran) element, but the former had a much larger constituency of Irish Presbyterians, and was, before the Revolution, probably the most thoroughly Presbyterian colony of the whole thirteen. There was not, however, at this time, so far as we can learn, anything like an established church in the colony.

Maryland was founded and settled by Lord Baltimore and his kinsmen, the Calverts and Carrolls, all of them Roman Catholics; but to their honor, be it said, there was complete religious toleration from the first, and in 1770 the Catholics had but a slight majority among the inhabitants; still

it was the predominant faith of the people of the colony.

Virginia, settled by the younger sons of the English nobility and their friends at first, and its population subsequently largely increased by the great number of "redemptioners," (paupers, convicts, etc., sent over and sold for a term of years to pay for their passage,) had up to the commencement of the Revolution, recognized the church of England as the established church of the colony, and at times had persecuted sharply other denominations. Through the influence of such men as Patrick Henry, Thomas Jefferson, and others, who, though not religious men themselves, yet saw the necessity for religious liberty, that principle was incorporated in its first constitution as a State.

North Carolina and South Carolina were settled largely by Protestant Irish (Presbyterians,) Huguenots (Protestant Reformed Church,) Moravians, and other Germans, mostly Protestant; their constitutions and charters were favorable to religious liberty.

Georgia, the youngest of the colonies, was largely settled by the followers of Whitfield and Wesley, and was, moreover, a refuge for persecuted Protestants from the states of continental Europe. The largest religious liberty existed here from the first.

Such was the religious, or rather denominational history of the thirteen colonies when they came together by their representatives in the Continental Congress. Every form of christian belief then known, had its adherents in one colony or another. Most of them assimilated to a considerable extent by their years of intercourse during the war, abolished all restrictions on complete religious liberty (where any existed) before the adoption of the constitution, but Massachusetts and Connecticut retained theirs till the adoption of new and revised constitutions in the early part of the present century. It is to be said in their favor, however, that these restrictions were not, after the revolution, so severe or onerous as those under which the dissenters in England groan to-day.

Meanwhile there had grown up a second tier of States beyond the Alleghanies, which were now knocking for admission to the Union. What were the religious denominations to be found in these? In general, we may answer, that they were the same with those of the States from which most of their inhabitants had come. Thus Ohio, settled largely

from New England, especially in its northern half, had a predominance of Congregationalists, with some Methodists and Baptists in that section, and in the southern portion which was peopled from Pennsylvania and Virginia, a large proportion of Presbyterians, Lutherans, Quakers, and many German Methodists, with some Episcopalians and Baptists. Kentucky and Tennessee had at this time more of the Presbyterian element, modified by the great awakening of 1801-2 to the Cumberland Presbyterian creed, while Baptists and Methodists alike were gaining the affections of large numbers of the people. A few years later other forms of faith made great inroads into the ranks of the older denominations. Alabama, settled mostly from Georgia and Tennessee, though with some admixture of northern men, drawn thither by its commercial facilities, had many representatives of most of the older denominations, but did not in its early history give much heed to the apostles of new faiths. The purchase of Louisiana in 1803, added a considerable Catholic element to the religious population of the country, not only in Louisiana proper, but in Mississippi, and in the states and territories subsequently organized west of the Mississippi. In fact there were scattered Catholic churches in all the French and Spanish forts and trading stations throughout the northwest, and these, though very feeble and widely scattered, served as *nuclei* for more extensive establishments as the country was settled. Detroit, Michigan; Vincennes, Indiana; Vandalia, Kaskaskia, and Joliet, Illinois; two or three points in Wisconsin, and as many in Illinois, St. Louis, and some other points in Missouri, Bardstown, Kentucky, and missions in Arkansas and Kansas, indicate how zealously the French Catholic priests had planted their outposts throughout the Mississippi valley. As yet, however, the Catholics were not strong anywhere in the United States, and it was not until immigration commenced on a large scale from Ireland and Germany that they attained to a prominent position among the religious denominations of the country. The German immigration, as well as that at a later date from Sweden and Norway, also largely increased the number of Lutheran and German Reformed churches, and that from England, Scotland, and the north of Ireland, enured mainly to the benefit of the Presbyterians, and Methodists, though a minority were Baptists.

Several denominations, some of them now among the larger religious bodies of the country, have either originated here or had their principal development in the United States. The first of these in the order of time was the Shakers, or followers of Mother Ann Lee. This noted religious leader was born and lived for many years in England, and claimed to have received her first and principal revelations there; but she had not a score of adherents when she came to the United States in 1774, and it was not till about 1780 that she had any considerable number of disciples, and it was not till 1805 that the societies of the Shakers were established at any great distance from their first center, Watervliet. The disciples, or followers of Alexander Campbell, were first organized as a distinct body of christians about 1810, but did not increase very rapidly till about 1831. They are now about in the fifth or sixth rank among the religious denominations of the country.

The United Brethren in Christ, (not Moravians, but German Methodists,) date back to 1760, when Otterbein and Boehm commenced their missionary labors; but their principal development has taken place during the present century.

The Mormons organized their first community or church in 1831, though the professed revelations of Joseph Smith date some years earlier. Various methods of classification of religious and irreligious societies have been attempted, but all of them are liable to some objection. The most common classification is that of Roman Catholics, Protestants, Infidels or Unbelievers in Christianity, and Pagans. This answers well enough for a generic division, but when we come to a minute classification we find a difficulty. The Roman Catholics, though divided into several orders or societies which are more or less hostile to each other, such as Jesuits, Dominicans, Franciscans, Benedictines, Paulists, Lazarists, etc., have yet this common bond of union that they all acknowledge allegiance to the Pope, while Protestants, however we may classify them, will hardly come under any strict rule of division. One classification is into Trinitarians and Anti-Trinitarians; but to this it may be objected that neither party are wholly Protestant, the Roman Catholics being Trinitarians as well as most of the Protestants, and a part of the Baptists, and a por-

tion of the Anglican churches, denying that they are Protestants, as do likewise some of the Anti-Trinitarians. This division is liable to the further objection that it arrays a very large body of religionists on one side against a comparative handful on the other.

The division into Orthodox and Heterodox, is liable to the objection that there is no universally recognized standard of Orthodoxy, and to call a man Heterodox because his belief on all points was not the same with that of some other man would be invidious. The division into Evangelical and Unevangelical is equally objectionable on the ground of its indefiniteness, with the added difficulty that it would divide two denominations, the Anglican churches and the Unitarians, a part of each claiming and receiving the title of Evangelical, and the other part rejecting it. The division of the denominations into Calvinists and Arminians is perhaps as fair as any, though several denominations have both classes in their membership. That into Baptists and Paedobaptists is faulty because, though no Baptist, i. e. Immersionist, is a Paedobaptist, that is, an advocate for the baptism of infants, yet many Paedobaptists occasionally practice immersion, as for example, the Methodists, the Congregationalists, and the Episcopalians. It is liable to another difficulty, viz., that some of the organizations not reputed Christian, such as the Mormons, practice immersion.

In the attempted subdivision of the Infidel or unbelieving class, we are met with still greater difficulties. The Deist, especially, if an Israelite, and a believer in the Old Testament scriptures, will object strenuously to be ranked with the sceptic whose only God is nature, and whose highest hope for the future is in annihilation, or with the Comtist who recognizes no divinity of greater knowledge or power than himself, or the Atheist, who believes that all things are the result of chance. Between these extremes there are an infinitude of opinions, no two of which can be reconciled with each other, even to the extent of a common classification. Of Paganism there are but comparatively few representatives—the Indian tribes in the West, the Chinese, who seem to be in about equal proportions, Buddhists, Sintoists, and followers of Confucius, the Alaskan Indians, and Esquimaux, whose religion seems akin to Shamanism, the small colonies of Japanese, (Buddhists) and the traces of Fetichism found

in the more ignorant and superstitious of the Sonthern negroes.

The following table exhibits as accurately as they can be obtained from official and other sources, the statistics of the various religious and irreligious sects in the United States, as reported at or near the close of

1870. The denominations have been taken generally in the order of their membership; but the smaller churches which affiliate with the larger ones in their doctrines and ordinances, have been considered in the same connection, in preference to a rigid classification on the basis of number of members.

TABLES FROM THE CENSUS OF 1870,—RELIGIOUS CREEDS.

ITEMS OF AGGREGATES OR TOTALS FROM THE CENSUS OF 1870:—					
	Religious Denominations.	No. of Organ- izations.	No. of Edifices.	No. of Sittings.	Value Church property.
1	Baptists.....	15,829	13,952	4,366,135	\$41,608,198
2	Christians.....	3,578	2,822	865,019	6,425,137
3	Congregational..	2,887	2,715	1,117,212	25,069,698
4	Episcopal (Protestant).....	2,835	2,601	991,051	36,514,549
5	Evangelical Association.....	815	641	193,796	2,301,650
6	Friends	692	662	224,664	3,939,560
7	Jewish	189	152	73,265	5,155,234
8	Lutheran	3,032	2,776	977,332	14,917,747
9	Methodist	25,278	21,337	6,528,209	69,854,121
10	Miscellaneous	27	17	6,935	135,650
11	Moravian	72	67	25,700	709,100
12	Mormons	189	171	87,838	656,750
13	New Jerusalem.....	90	61	18,755	869,700
14	Presbyterians	7,824	7,071	2,698,244	83,265,256
15	Reformed Church (Dutch).....	471	468	227,228	11,359,255
16	Reformed Church (Ger.).....	1,256	1,145	431,700	5,775,218
17	Roman Catholic.....	4,127	3,806	1,490,514	60,985,566
18	Second Advent.....	225	140	34,555	306,240
19	Shaker	18	19	8,850	86,900
20	Spiritualist.....	95	22	6,970	100,150
21	Unitarian	331	310	155,571	6,282,675
22	United Brethren in Christ.....	1,495	937	265,025	1,819,810
23	Universalists	719	602	210,884	5,692,325
24	Unknown (Local Unions)	26	27	11,925	687,800
25	Unknown (Union).....	409	552	153,202	965,295
		72,509	63,073	21,170,579	\$335,483,581

Estimated number of different Religious creeds of the world:—

Nominal Christians.....	380,000,000
Budhists	360,000,000
Other Asiatic religions.....	260,000,000
Pagans	200,000,000
Mohamedans.....	165,000,000
Jews	7,000,000
Number of Colleges in the United States authorized to confer degrees in Art.....	372
Number of Theological Seminaries.....	117
Number of Law Schools.....	40
Number of Medical, Dertal, and Pharmaceutical Institutions	73
Number of Agricultural and Scientific Schools.....	56
Number of Institutions for the superior instruction of females exclusively.....	136
Number of Normal Schools.....	114

Compiled from the Reports of the Commissioners of Education.

CHAPTER II.

HISTORY AND PROGRESS OF THE DIFFERENT DENOMINATIONS.

I. ROMAN CATHOLICS. The adherents of the Roman Church in the United States were, as we have already seen, just before the American Revolution, except in Maryland, but a very small proportion of the population. They had small congregations in New York, Philadelphia, and perhaps, two or three other large towns. In Baltimore, they were the leading denomination, and in several towns of Maryland they had congregations. In sections which soon after came into the Union as states or organized territories, their congregations were scattered somewhat widely. In North Eastern Maine, the Arcadian settlers, mostly French or of French extraction, were generally devout Catholics; and a few priests with their flocks were found along the northern line of New England and New York. Detroit had a very considerable Catholic element in its population from the first; and farther west, at several points in Illinois, Wisconsin, Iowa, and especially in Missouri and below in the Mississippi Valley, among the French and creole population of Louisiana Territory, churches and cathedrals were comparatively numerous. Farther west, in Texas and California, as well as in Mexico, New Mexico, and Arizona, all at this time under the control of Spain, and subsequently of the Mexican Republic, Catholicism had been for two centuries the established religion of the state, and Indians, Mexicans, and Spaniards of the pure blood were alike, nominally at least, enrolled among its numbers. The missions, churches and cathedrals, many of them in ruins, which dot the prairies and oases of the vast territory acquired by the war of 1846, show that in former times, a very considerable, though mainly a native population was subservient to this faith. It was not, however, till after 1820, when the vast tide of immigration from Ireland and from Catholic Germany, with its occasional additions from France, Italy, and Spain,

began to flow in upon us, that the Roman Catholic church assumed anything like its present proportional magnitude. Its outposts were indeed already planted, and it had its centers of influence, its *nuclei* around which it could gather its incoming hosts. But prior to 1820, it probably ranked in the number of its communicants not higher than fourth or fifth among the religious denominations of the country. It is stated on good authority (that of a Roman Catholic archbishop), that more than five millions of Catholic emigrants have landed upon our shores since 1820. Of course many of them have apostatized; many more have died, and their children have been reared in other faiths, or in no faith at all. In these ways only can we account for the fact attested by the highest Roman Catholic authority, that their communicants do not to-day number over 3,500,000. Their clergy have not been wanting in zeal or fidelity to their faith; and no denomination in the country has provided so well or so promptly for the maintenance of religious worship as they. They have not been persecuted for their faith, or their numbers would be larger; but there has been on the part of immigrants a strong disposition, on coming to this country, to throw off all religious restraints under the impression that this was one of the requisites of national freedom.

With this brief sketch of its history, we proceed to give the leading doctrines of the Roman Catholic Church, stating them in this case, as we shall in that of all the other denominations, in the exact language of their own ablest and most representative writers, as the only course which will render strict justice to each denomination. The late Archbishop Kenrick of Baltimore, one of the ablest writers and most accomplished scholars of the Roman Church, thus states its doctrines: "The chief doctrines of the Church regard the unity of the divine nature in three dis-

tinct divine persons, and the incarnation of the second divine person, through the mysterious operations of the Holy Spirit in the Virgin Mary, and his death on the cross for the expiation of the sins of mankind. The belief of the incarnation is the ground and motive of the high veneration which is entertained for the Virgin, who is styled Mother of God, because Christ her son is God incarnate." (Since the death of Ab'p Kenrick, the dogma of the Immaculate Conception of the Virgin Mary, regarding her as born as free from sin as Christ himself, has been proclaimed by the Pope as a fundamental doctrine of the church.) "To her is ascribed all sanctity and perfection which can be bestowed on a mere creature, and she is held to have been free from all stain of sin by a special privilege granted her, that she might be worthy of the dignity for which she was divinely chosen. The mystery of the redemption is prominent in the teaching and worship of the church. Christ suffered and died, as man, to atone for the sins of our first parents, and the sins of all mankind. His death fully expiated the guilt of sin, and presented an atonement in every respect perfect. Yet all men are not justified and saved, but those only to whom the redemption is applied by means divinely prescribed. Baptism is believed to be a remedy for original sin, applicable even to infants. Adults having the use of reason must believe in Christ and repent of sin, in order to receive the benefit of the atonement. From those who have forfeited baptismal grace, fruits of penance are required as evidences of their sincere conversion to God, and as conditions to entitle them to the application of the merits of Christ. Nothing that man can do, can take away the guilt of sin, or prove an adequate satisfaction for it; but God requires the humiliation of the sinner, and accepts his penitential works, which derive value from the ransom offered by Christ. They add nothing to it, but they become acceptable through it. Christ is the spiritual Mediator through whose blood we must sue for pardon and salvation. The worship of the church is given to God only—the one Eternal Being in the three divine persons—and the incarnate Word, God consubstantial to the Father. Inferior religious honor, which may be called worship in a qualified sense, is given to the Virgin Mary, on account of the gifts and graces with which God has endowed her, and her exalted dignity as

Mother of God incarnate. The angels, namely, incorporeal spirits reigning with God, are honored as his creatures, in whom his perfections are reflected, and his messengers through whom he has manifested his will. Saints, those who have proved faithful in the divine service to the end, and are already crowned with glory in the kingdom of God, are venerated likewise for their triumphant virtue; the martyrs especially, who died amid torments rather than deny Christ, and the virgins, who throughout life preserved the purity of their affections, are deemed worthy of high honor. But there is an essential difference between the honor given to the creatures of God, and that which belongs to God alone. He receives the submission of the understanding and the will, the homage of the affections. He is acknowledged to be the essential Being, the supreme Lord, the beginning and the end of all things. Sacrifice is given to him only. Prayer, in its strict acceptation, can be offered to him only, the Giver of every good gift. Grace and salvation depend upon his bounty and mercy. Litanies and prayers to the saints are only appeals to them to intercede with God for us through Jesus Christ. They are not supposed to be omniscient or omnipresent; but they know, in God, the pious desires as well as the penitential sighs of the faithful. Respect is paid to the crucifix, which recalls to our mind the sufferings of Christ for our redemption, but it does not terminate in the symbol or material object. The kissing of the image, the bending of the knee, the prostration of the body in the ceremonial of Good Friday, are all directed to Christ, our Redeemer. So the images of the saints awake the remembrance of their virtues. The bowing of the head to a statue, or the burning of incense before a shrine, is referred to the saint whose memory is honored for his love of God and his zeal for the divine glory. Relics, that is objects used by the saints, or particles of their remains, are venerated for the relation they bear to them. The fall of the first parents of the human race is the fundamental doctrine on which the belief of the mystery of redemption depends. . . . Original sin is that transgression which is common to the whole human family, each one being estranged from God, and liable to his wrath, in consequence of the act of the heads of the race. The natural powers have been weakened by the fall. The freedom of the human will remains, but it is

less vigorous than in our first parents. Our nature is not vitiated and dependent, but it is prone to evil and exposed to violent temptation. . . . A Redeemer was given us, in the person of Christ, who, being God-man, atoned by his sufferings for the sin of our first parents, and merited for us all grace by which temptation may be overcome. Actual sin is the willful transgression of the divine law by individuals having the use of reason. Mortal sin is any act, speech, desire, or thought grievously opposed to the natural or divine law. Sins which imply no direct or grievous opposition to the law of God, are styled venial, because their pardon is easily obtained, since they do not separate the soul from God. Slight impatience, rash words, vain self-complacency, may be venial. Deliberate hatred, gross calumny, acts of violence, not to speak of drunkenness, lust, and murder, are mortal sins. The distinction of sins is not derived from the individual who commits them, although they may be aggravated by his personal obligations. Forgiveness of sins, even the most heinous, is promised to the penitent. Sorrow for having committed them is a necessary disposition in order to obtain it. Perfect sorrow, which is called contrition, springs from divine love, and leads us to detest sin as opposed to the goodness of God and to his eternal perfection. Attrition, is sorrow of a less perfect kind, arising from an experience of the evil consequences of sin, and the dread of the punishments which await it hereafter. If it wean the heart from sin, and inspire an effectual detestation of it, so as to be accompanied with a firm resolution of amendment, it is held to be useful and salutary, and such as may dispose for pardon in the sacrament of penance. . . . The forgiveness of sin properly belongs to God, who is offended. Christ, as God-man, forgave sin, and authorized the apostles to impart forgiveness or withhold it. The power is judicial, since they may bind or loose, retain or forgive; on which account a confession of sin is required from every applicant for its exercise. When this is made with sincerity, humility, sorrow, a willingness to repair the wrong committed, and a determination to shun the occasions of sin, the priest absolves the penitent. This absolution is a judicial sentence, deriving its force from the divine institution. The sacraments (seven in number) are rites instituted by Christ our Lord, as instruments and means of grace to apply to our

souls the merits of his sufferings and death. They are said to contain and confer grace, technically *ex opere operato*, because they are effectual means divinely chosen to impart it, where no obstacle is presented by the receiver. Certain dispositions, however, are required on the part of adults who desire to partake of them. Faith and compunction are necessary on the part of the applicant for *baptism*. Sorrow, with a firm purpose of amendment, is required from the professed penitent, in the sacrament of *penance*. The strengthening grace of the Holy Spirit is granted, by *the laying on of hands* with prayer, to the baptized believer, whose heart is free from willful sin. Sin is forgiven to the dying man who with penitence and hope receives the mystic *unction*, and for whom the prayer of faith is offered up. *The imposition of hands* is available for the communication of sacerdotal power, even to the unworthy candidate, but grace is given to him who is called by God, and who with humility corresponds to the divine vocation. *Marriage* is a great mystery, the image of the union of Christ and the Church, to be celebrated with purity of affection. *The Eucharist*, the chief sacrament, is to be approached with hearts cleansed from sin, under penalty of becoming guilty of the body and blood of the Lord, and incurring condemnation. . . .

It is not easy to reconcile the exercise of free will with the divine foresight. We cannot understand how it is possible for us to act independently, and of our own determination, when God has foreseen our action. It is sufficient to know and feel our freedom, without sounding the depths of divine knowledge. It suffices then to admit that without the grace of Christ we can do nothing, and to hold that we can do all things in Him who strengthens us. Everlasting beatitude, consisting in the contemplation and enjoyment of God, is the reward promised by Him on condition of the fulfilment of His commandments, and bestowed gratuitously on baptized infants or others incapable of personal acts. The punishment of grievous sin is eternal. Impenitent sinners are forever separated from God, and suffer torments. Those who die guilty of slight faults or debtors to divine justice, are withheld for a time from the enjoyment of Heaven (and suffer the pains of purgatory). The glory of heaven is immediately attained by baptized infants dying before the use of reason, by

adults dying immediately after baptism, by martyrs, and by all who die with perfect love of God, and free from sin or debt of punishment. The soul only is admitted to happiness. The body is subject to dissolution, but is to be raised at the end of time, in order to be reunited to the soul, and made partaker of her glory.

The teaching of Christ our Lord, becomes known to us especially by the preaching of the ministry, tracing back their commission to the apostles. Solemn definitions of faith are the most authoritative forms of this preaching. They are declarations not merely of doctrines contained in the written word, but of revealed truths, whether written or unwritten. Christ himself left nothing in writing; several of his apostles wrote much, and two other sacred writers composed narratives of his life and teaching; but many things belong to the deposit of doctrine which were not explicitly placed on record. The body of bishops feel themselves authorized to propose as revealed truth whatever has come down from the beginning in the church, and been generally acknowledged to appertain to doctrine. In cases of difficulty, when doubts have been raised with regard to some tenet, they feel themselves competent to examine the evidence, and decide whether the doctrine has been revealed. After a definition, it is no longer allowed to question a truth sealed with their approval. Infallibility in judgment is claimed for the body of bishops with their head, the bishop (pope) of Rome. (The infallibility of the pope was declared one of the cardinal doctrines of the Roman Catholic Church by the Council of Rome in 1870—71.) By the infallibility in judgment of the bishops, is meant the providential guidance of the Holy Spirit, by which they are directed and enlightened in doctrinal decisions, that they may not mistake error for truth or propose as divinely revealed what wants the seal of divine authority. The tribunal of the pope is universally acknowledged (in the Roman Catholic church) as competent to pronounce judgment in controversies which regard faith, and its decrees, directed to the body of bishops or to the church at large, proposing doctrines under penalty of excommunication, when acquiesced in by the bishops, are final and irreversible.

The Church accepts the Divine Scriptures as the word of inspiration, written under the impulse of the Spirit of God, and to be re-

ceived with all faith and veneration. To the books of the Old Testament, according to the Jewish Canon, she adds certain other books (usually known as the Apocrypha) on ancient testimony, usage, and tradition derived from the apostles. The books of the New Testament included in the Canon, are those adopted as inspired by the Council of Trent. The Church claims the supreme authority of determining the meaning of the Scriptures, in conformity with the general teaching of the fathers, that is, the ancient Christian writers. Faith, according to the Roman Catholic view, is the assent of the human mind to divine truth as it is proposed and attested by the church of God. The truth must be revealed, and it must be propounded by the church. Faith is necessary to salvation, so that without it, it is impossible to please God. The wanton and proud rejection of a single point of revealed doctrine involves shipwreck of faith. Hence, the plea of invincible ignorance is the only one which Roman Catholic divines admit as of any avail in behalf of those who reject any of the doctrines which the Church has propounded as revealed, and only God can determine with certainty the individual for whom such plea may be available. All baptized children are claimed by the church as her own, since baptism is the sacrament of regeneration, and they continue such until by their willful profession of condemned error they forfeit their birthright. The principles of the Catholic Church with regard to civil duties, are highly conservative. She feels bound to respect established authority, and enforce, by moral suasion, obedience to those in high station, and she uses every fit occasion to insinuate the axiom, that religion is the only sure basis and strong bond of security. The duties of her members are dependent on the providential position in which they find themselves. They are to support law and order, and fulfil faithfully every obligation to society.

By *discipline*, Catholics understand all that appertains to the government of the Church, the administration of the sacraments and the observance and practice of religion. The essential *worship* consists in the sacrifice of the mass, which, although mystical and commemorative, is real and propitiatory, being a continuation of the sacrifice of the cross. Vespers, or evening prayers, are solemnly sung, the psalms of David, the song of the Virgin Mary, and pious hymns and

prayers being used. In the cathedral churches, other portions of the divine office are sung at various hours of each day, by clergymen, called canons, devoted to this duty. Numerous festivals are also celebrated to honor the divine mysteries and present them to the devout contemplation of the faithful. Many are solemnized in honor of the Virgin Mary, the apostles, martyrs, confessors, virgins, and saints of every class, whose virtues are thus set before the faithful for their imitation. Fasting is also a part of church discipline. Forty days before Easter (the Lenten Fast) are devoted to this exercise. Ember days, viz., Wednesday, Friday, and Saturday, in each of the four seasons, are observed as fasts to obtain the divine blessing, and worthy ministers for the church, ordinations being held at those times. The eve of great solemnities is observed by fasting, in order to prepare by penance for their celebration. Abstinence (from meat) is observed on each Friday of the year, and in some dioceses, on Saturday also. All these penitential observances are matters of church law, which admits of dispensation. The rites of the mass, and the ceremonies used in the administration of the sacraments, appertain to discipline, which admits of variety and change, although great deference is shown for ancient usage. For this reason, the Latin liturgy, used from early times in the Roman church, is still employed by the celebrant, although instructions are given in the vernacular language, and facilities are offered to the faithful for praying in a manner suited to their capacity. The changes which have been made are in the manner of administering baptism, and the Eucharist, and penitential discipline. The solemn mode of baptism was originally by immersion. The candidate used to descend into fonts, or streams, or rivers, and sink beneath the waters under the pressure of the hands of the sacred minister. In cases of necessity and danger, less solemn modes were used, which, from being frequent at length, after the lapse of ages, became universal. In like manner, the Eucharist, having been instituted by our Lord under the forms of bread and wine, was generally administered under both kinds for many ages. Exceptional cases were always admitted, which at length proved so numerous as to supersede altogether the ancient usage. The church claims the right to regulate, at her just discretion, whatever regards the manner

of administering the sacraments, while she holds their substance to be inviolable. The change in regard to penance, has reference mainly to the issue of indulgences, i. e. pardons for offences justly liable to penitential discipline. These, which were generally *plenary*, were not directed to the forgiveness of sin which needed the sacramental remedy, but to the remission of the temporal punishment, which was often exacted by divine justice from those whose sins had been pardoned. They served as incentives to works of piety, such as almsgiving, fasting, and prayers.

The organization of the church consists in its government by bishops, each in charge of a special flock, with subordination one to another, and the dependence of all on the bishop of Rome (the pope), as shepherd of the whole fold of Christ. The Episcopal character is the same in all bishops, but governing authority, which is called jurisdiction, is possessed in various degrees—in its fullness, by the pope, who is the fountain, the streams of which flow to all others. He alone has apostolic authority, which may be everywhere exercised, with due regard to the local prelate, and which is suited to every emergency. Next to him, in governing authority, are the cardinals, in whom, during the vacancy of the Roman see, this plenitude of jurisdiction is believed to reside. Each bishop governs his own diocese, not as papal vicar, but as ordinary or proper ruler, although in some things his authority is enlarged as delegate apostolic. Several dioceses form a province which is governed by an archbishop. Many ecclesiastical provinces are sometimes united as a nation, under a primate who ranks above other prelates. The vicar apostolic is, in some sense, a missionary bishop. The general government of the church is carried on at Rome, where the pope is assisted by the body of cardinals, several of whom compose standing committees to examine and prepare the matters for final action. Nearly thirty belong to the College of Propaganda, which is charged with a general superintendence of missionary countries. The appointment of bishops is made on the recommendation of the local prelates, with the advice of the cardinals.

The religious orders in the church are like corporations in a civil government, having special exemptions and privileges to enable them successfully to pursue the objects of their respective institutes. They derive

these from the pope, who, in virtue of his apostolical authority, exempts the members from the jurisdiction of the bishops in what regards their domestic discipline, but leaves them dependent on them for faculties to be exercised in behalf of the faithful. The older religious orders of Europe all have their houses here; the Benedictines, Dominicans, Franciscans, Carmelites, Augustinians, Lazarists, and the followers of Loyola, or, as they are often called, Jesuits. A new religious order, that of St. Paul the apostle, or as they are usually called, Paulists, was founded a few years since in New York, and has been very efficient in missionary labors. There are also teaching orders, like the Brothers of the Christian Schools, and charitable orders of both sexes, like the Sisters of Charity, Brothers and Sisters of the Sacred Heart of Jesus, Sisters of Mercy, Little Sisters of the Poor, &c., &c. These charitable orders have effected much good in the founding and management of schools, in visiting the sick and prisoners, in managing hospitals, reformatories, &c. Of late years, the Roman Catholics have not only largely increased their colleges, but have multiplied their schools, claiming that their children should be instructed in religious as well as in secular knowledge. They have also established many orphan asylums, reformatories, and Magdalen asylums.

II. BAPTISTS.

I. REGULAR BAPTISTS. The Baptist churches of the United States rank among the most numerous and influential of the evangelical religious denominations in the country, and while generally either moderate or strict, (but not high,) Calvinists in their theology, and strictly congregational in their church government, are distinguished from other denominations holding to Calvinistic doctrines and a congregational polity, by their views on the mode and subjects of *baptism*. They hold that immersion is the only true mode of baptism, and a personal profession of faith in Christ the necessary prerequisite for every subject of that ordinance.

It is usually stated that Roger Williams, the founder of the colony of Rhode Island, was also the founder of the Baptist denomination in the United States. The statement is but partially true. Four years before Williams's baptism, in 1635, Hansard Knol-

lys, an English or rather Welsh, Baptist preacher, had emigrated to New England with a portion of his flock and settled as a pastor at Dover, New Hampshire, and though he afterward returned to England, his church remained. Baptist sentiments were propagated in the Rhode Island colony, but much more by John Clarke, a friend and associate of Williams, than by Williams himself; indeed, the latter, whose memory is deserving of all honor for his noble defence and maintenance of complete liberty of conscience, held certain views in the latter part of his life, which caused him to stand aloof, so far as communion went, from the Baptist as well as from other churches. There were, however, a considerable number of Baptists who emigrated from England, Holland, and Germany within the next hundred and thirty years, and Baptist churches existed in most of the thirteen colonies at the commencement of the Revolution; yet their membership was small. In 1762 there were but 53 churches with less than 6,000 members in the denomination. In 1776 they reckoned nearly 150 churches with a membership of about 13,000. From the time of the revolution, their growth was very rapid, exceeded only by that of the Methodist churches.

Every church among the Baptists is completely independent of every other and fully competent to establish its own doctrinal views, its own course of polity and discipline, and to elect, license, and ordain its own officers whether they are deacons, licensed preachers, ordained ministers or pastors. The Baptists acknowledge no church courts, no hierarchy, presbytery, synod, directory, classis, general assembly, annual or general conference, dean or bishop as having any power over the *individual church*, which they regard as the final arbiter in all matters of discipline, polity, and doctrine. In these matters they are the most absolutely pure and simple congregationalists, the completest democracy in the world. They have, it is true, their associations and conventions, and their church councils, but these are only for devotional, charitable, and advisory purposes; they possess no disciplinary powers. It follows as a necessary corollary from this, that though all the Baptist churches acknowledge and receive "the Scriptures of the Old and New Testaments as their only and all sufficient rule of faith and practice" they have no articles of faith or creed which are universally received. Many of the oldest and

most influential churches have never had articles of faith. Where they are used, each church prepares its own or adopts one already prepared as it pleases, yet most of them agree in the principal points of doctrine. The Regular Baptists are in general Moderate Calvinists, accepting "for substance of doctrine" the view of the general sufficiency but particular application of the Atonement enunciated by Rev. Andrew Fuller, in his theological works. A confession of faith, embodying these doctrines and known as the New Hampshire Confession of Faith, was prepared more than forty years ago and has perhaps been adopted by more churches than any other; yet while it represents fairly the views of the great body of regular Baptists, it cannot be considered an authoritative document. We give below the articles of this confession.

I. *Of the Scriptures.* We believe that the Holy Bible was written by men divinely inspired, and is a perfect treasure of heavenly instruction, that it has God for its author, salvation for its end, and truth without any mixture of error for its matter; that it reveals the principles by which God will judge us; and therefore is, and shall remain to the end of the world, the true centre of Christian union, and the supreme standard by which all human conduct, creeds, and opinions should be tried.

II. *Of the True God.* We believe that there is one, and only one, living and true God, an infinite, intelligent Spirit, whose name is JEHOVAH, the Maker and Supreme Ruler of Heaven and Earth; inexpressibly glorious in holiness, and worthy of all possible honor, confidence, and love; that in the unity of the Godhead there are three persons, the Father, the Son, and the Holy Ghost; equal in every divine perfection, and executing distinct but harmonious offices in the great work of redemption.

III. *Of the Fall of Man.* We believe that Man was created in holiness, under the law of his Maker; but by voluntary transgression fell from that holy and happy state; in consequence of which all mankind are now sinners, not by constraint but choice, being by nature utterly void of that holiness required by the law of God, positively inclined to evil; and therefore under just condemnation to eternal ruin, without defence or excuse.

IV. *Of the Way of Salvation.* We believe that the salvation of sinners is wholly

of grace; through the Mediatorial offices of the Son of God; who by the appointment of the Father, freely took upon Him our nature, yet without sin; honored the Divine law by his personal obedience, and by his death made a full atonement for our sins; that having risen from the dead, He is now enthroned in Heaven, and uniting in His wonderful person the tenderest sympathies with divine perfections, He is every way qualified to be a suitable, a compassionate, and an all-sufficient Saviour.

V. *Of Justification.* We believe that the great Gospel blessing which Christ secures to such as believe in Him is Justification, that Justification includes the pardon of sin, and the promise of eternal life on principles of righteousness; that it is bestowed, not in consideration of any works of righteousness which we have done, but solely through faith in the Redeemer's blood, by virtue of which faith His perfect righteousness is freely imputed to us of God, that it brings us into a state of most blessed peace and favor with God, and secures every other blessing needful for time and eternity.

VI. *Of the Freeness of Salvation.* We believe that the blessings of salvation are made free to all by the Gospel; that it is the immediate duty of all to accept them by a cordial, penitent, and obedient faith; and that nothing prevents the salvation of the greatest sinner on earth, but his own inherent depravity and voluntary rejection of the Gospel, which rejection involves him in an aggravated condemnation.

VII. *Of Grace in Regeneration.* We believe that in order to be saved, sinners must be regenerated, or born again, that regeneration consists in giving a holy disposition to the mind; that it is effected in a manner above our comprehension by the power of the Holy Spirit, in connection with Divine truth, so as to secure our voluntary obedience to the Gospel; and that its proper evidence appears in the holy fruits of repentance, and faith, and newness of life.

VIII. *Of Repentance and Faith.* We believe that Repentance and Faith are sacred duties, and also inseparable graces, wrought in our souls by the regenerating Spirit of God, whereby being deeply convinced of our guilt, danger, and helplessness, and of the way of salvation by Christ, we turn to God with unfeigned contrition, confession, and supplication for mercy; at the same time heartily receiving the Lord Jesus

Christ as our Prophet, Priest, and King, and relying on Him alone as the only and all-sufficient Saviour.

IX. *Of God's Purpose of Grace.* We believe that Election is the eternal purpose of God, according to which He graciously regenerates, sanctifies, and saves sinners; that being perfectly consistent with the free agency of man, it comprehends all the means in connection with the end; that it is a most glorious display of God's sovereign goodness, being infinitely free, wise, holy, and unchangeable; that it utterly excludes boasting, and promotes humility, love, prayer, praise, trust in God, and active imitation of his free mercy, that it encourages the use of means in the highest degree; that it may be ascertained by its effects in all who truly believe the Gospel; that it is the foundation of Christian assurance, and that to ascertain it with regard to ourselves demands and deserves the utmost diligence.

X. *Of Sanctification.* We believe that Sanctification is the process by which, according to the will of God, we are made partakers of his holiness; that it is a progressive work; that it is begun in regeneration; and that it is carried on in the hearts of believers by the presence and power of the Holy Spirit, the Sealer and Comforter, in the continual use of the appointed means—especially, the word of God, self-examination, self-denial, watchfulness, and prayer.

XI. *Of the Perseverance of Saints.* We believe that such only are real believers as endure unto the end; that their persevering attachment to Christ is the grand mark which distinguishes them from superficial professors; that a special Providence watches over their welfare; and they are kept by the power of God through faith unto salvation.

XII. *Of the Harmony of the Law and Gospel.* We believe that the Law of God is the eternal and unchangeable rule of His moral government; that it is holy, just, and good; and that the inability which the Scriptures ascribe to fallen men to fulfil its precepts, arises entirely from their love of sin; to deliver them from which, and to restore them through a Mediator to unfeigned obedience to the holy Law, is one great end of the Gospel, and of the Means of Grace connected with the establishment of the visible church.

XIII. *Of a Gospel Church.* We believe that a visible church of Christ is a congregation of baptized believers, associated by covenant in the faith and fellowship of the Gos-

pel; observing the ordinances of Christ; governed by his laws; and exercising the gifts, rights, and privileges invested in them by His word; that its only scriptural officers are Bishops or Pastors, and Deacons, whose qualifications, claims, and duties are defined in the Epistles to Timothy and Titus.

XIV. *Of Baptism and the Lord's Supper.* We believe that Christian Baptism is the immersion in water of a believer, into the name of the Father, and Son, and Holy Ghost; to show forth in a solemn and beautiful emblem, our faith in the crucified, buried, and risen Saviour, with its effect, in our death to sin and resurrection to a new life; that it is pre-requisite to the privileges of a church relation; and to the Lord's Supper, in which the members of the church by the sacred use of bread and wine, are to commemorate together the dying love of Christ; preceded always by solemn self-examination.

XV. *Of the Christian Sabbath.* We believe that the first day of the week is the Lord's Day, or Christian Sabbath; and is to be kept sacred to religious purposes, by abstaining from all secular labor and sinful recreations, by the devout observance of all the means of grace, both private and public, and by preparation for that rest that remaineth for the people of God.

XVI. *Of Civil Government.* We believe that Civil Government is of Divine appointment, for the interests and good order of human society; and that magistrates are to be prayed for, conscientiously honored, and obeyed; except only in things opposed to the will of our Lord Jesus Christ, who is the only Lord of the conscience, and the Prince of the kings of the earth.

XVII. *Of the Righteous and the Wicked.* We believe that there is a radical and essential difference between the righteous and the wicked; that such only as through faith are justified in the name of the Lord Jesus, and sanctified by the Spirit of our God, are truly righteous in His esteem; while all such as continue in impenitence and unbelief are in His sight wicked, and under the curse; and this distinction holds among men both in and after death.

It is usual also in Baptist churches to have a Church Covenant, to which the members, when received, give their assent, as it is read by the pastor. This covenant pledges them to the duties of the Christian life, to the observance of the worship, ordinances,

discipline, and doctrines of the church, and to a strict avoidance of all temptations to evil, and of all habits which may bring dishonor or reproach upon their profession, and to live in harmony and peace and in christian fidelity with the members of the church. In case of discipline, the usual charge against the offender is the violation of his covenant vows. With rare exceptions the Baptist churches are associated; that is, the churches of each convenient district unite in an association of churches, varying in numbers from four or five to fifty or sixty. Each church is represented at the annual meetings of these associations by the pastor and a number of lay delegates. The functions of these associations are wholly advisory, except that sometimes there is formed from them a Society or Board for missionary work, which may or may not be incorporated, but which, while responsible to the association which created it, takes upon itself, with their sanction, the raising of the necessary monies for its work, and the management of that work in all its details. The Baptist churches have also in most of the states and territories, state conventions, composed in the smaller states of the pastor and two or three lay delegates from each church; in the larger states, of clerical and lay delegates appointed by the associations. These conventions are generally occupied with the domestic missionary work of the states, aiding feeble churches, establishing new ones, assisting in the cause of ministerial and denominational education, &c. In these bodies, as in the associations, the strictly democratic principle of having all power inhere in and proceed from the membership of the church is fully observed.

The Baptist denomination in the United States maintains general organizations for Foreign Missionary purposes, for Home Missions, Church Extension, and the education of Freedmen for the ministry; for the translation, publication, and circulation of the scriptures in our own country and in foreign lands; for the publication of tracts, sunday school, and denominational works; for the promotion of theological, collegiate, and academical education, and a consolidated American Baptist Missionary Convention for missionary and educational work, mainly among the freedmen.

The ten societies of the denomination received in 1870 the following sums: for Foreign Missions, \$229,768.44; for Home Mis-

sions, Church Extension, &c., \$237,645.50; Bible, sunday school, and denominational publications and circulation, \$384,324.17 making a total of \$851,738.11 for missionary and educational purposes. The contributions for church purposes, and church extension, education, &c., not passing through these channels, the same year was about \$8,100,000 more.

The statistics of the denomination for 1870 were as follows: 799 associations, 17,745 churches, 10,818 ordained ministers; whole number of members 1,419,492, a net gain of 198,144 during the year. There were connected with these churches 5,251 Sunday Schools reported with 56,515 teachers, and 473,664 scholars. The number of volumes in the Sunday School libraries reported was 647,102, and the benevolent contributions of the schools \$122,143. There were the same year 38 colleges and theological seminaries belonging to the denominations, besides 18 or 20 others, mostly for female education, founded by Baptists and mainly under their control. These institutions had about 350 instructors and professors and over 6,000 students. The college property of these institutions is somewhat more than \$6,500,000.

They supported in 1870, 24 weekly, 3 semi-monthly, 12 monthly, and 3 quarterly periodicals devoted to the interests of the denomination, its Sunday Schools, and Mission enterprises.

II. FREEWILL BAPTISTS. This denomination originated in 1780, in which year Benjamin Randall, a native of Newcastle, N. H., born in 1749, and in 1771 converted under the preaching of George Whitfield, organized the first Freewill Baptist church, at New Durham, N. H. Randall was a man of but moderate education, but he possessed a strong and brilliant intellect, and having become convinced, in 1776, that the views of the Baptists were correct in regard to the mode and subjects of baptism, he joined them, and very soon after commenced preaching. He was a diligent student, and the Calvinistic doctrines of the Baptist churches being distasteful to him, he adopted after careful examination the views of Arminius, substantially as held by the New Connection of General Baptists in England, and the Methodists in this country. Mr. Randall preached these doctrines with great success, and in 1780 established his first church holding these doctrines. He also adopted the

principle of free or open communion. The growth of the denomination has been considerably rapid, though it has been, from their strong anti-slavery principles, confined entirely to the northern states, and its churches have been multiplied rather in the country than in the large cities. Almost two-thirds of its membership reside in New England and New York. Their views of doctrine correspond with the Regular Baptists on all points except the following, which we give from their Confession of Faith:

"The Atonement. As sin cannot be pardoned without a sacrifice, and the blood of beasts could never actually wash away sin, Christ gave himself a sacrifice for the sins of the world, and thus made salvation possible for all men. Through the redemption of Christ, man is placed on a second state of trial; this second state so far differing from the first that now men are naturally inclined to transgress the commands of God, and will not regain the image of God in holiness but through the atonement, by the operation of the Holy Spirit. All who die short of the age of accountability are rendered sure of eternal life. Through the provisions of the atonement, all are abilitated to repent of their sins, and yield to God; the Gospel call is to all, the Spirit enlightens all, and men are agents capable of choosing or refusing."

"Regeneration is an instantaneous renovation of the soul, by the Spirit of God, whereby the penitent sinner, believing in, and giving up all for Christ, receives new life, and becomes a child of God. This change is preceded by true conviction, repentance of, and penitent sorrow for sin; it is called in Scripture, "being born again," "born of the Spirit," "passing from death unto life." The soul is then *justified* with God."

"Sanctification is a setting apart the soul and body for holy service, an entire consecration of all our redeemed powers to God; believers are to strive for this with all diligence."

"Perseverance. As the regenerate are placed in a state of trial during life, their future obedience and final salvation are neither determined, nor certain; it is, however, their duty and privilege to be steadfast in the truth, to grow in grace, persevere in holiness, and make their election sure."

"Communion. Communion is a solemn partaking of bread and wine, in commemoration of the death and sufferings of Christ."

The custom or ordinance of "washing the

saints' feet," once practised to a considerable extent by this denomination, is still optional with them, but has generally been abandoned. In their church polity the Freewill Baptists are not so independent or democratic as the Regular Baptists, having adopted, with their doctrines, some of the views of the Methodists on church government. They have but two classes of officers in the church,—elders and deacons. Each church elects its own pastor, and exercises discipline over its own members; but as a church is accountable to the yearly meeting, which has, also, the power of receiving appeals and trying them. The ecclesiastical organizations of the denomination are the church, the quarterly meeting or conference, the annual meeting, and the general conference, which meets triennially. The quarterly conference consist of the ministers of its territory, and such lay members as the churches may select. A council from the quarterly conference organizes churches, and ordains ministers, and the ministers are accountable to it and not to their churches. The annual conferences are composed of delegates appointed by the quarterly conferences, and the general conference delegates are chosen from the annual conferences. The statistics of the denomination for 1870, are as follows; One general conference; thirty yearly meetings; 155 quarterly meetings; 1386 churches; 1145 ordained ministers, and 66,909 communicants. We have no report of their Sunday Schools, and no recent one of their benevolent contributions. Their donations to the foreign missionary cause in 1866, were \$12,166, but have since been considerably increased. They have also a Home Mission Society, and an Education Society. They have four colleges: Bates College, Lewiston, Me., which is liberally endowed, and has 12 instructors and 103 students; Hillsdale College, at Hillsdale, Mich.; West Virginia College, at Flemington, W. Va., and Ridgeville College, Ridgeville, Ind. They have also a Theological Seminary at New Hampton, N. H., and a Theological Department of Bates College, Me. There are also thirteen academies, seminaries, &c., and a society for the promotion of Education in the South. They have a printing establishment, the property of the denomination, at Dover, N. H., and issue a weekly paper, the "Morning Star," a monthly juvenile paper, and an annual, the "Freewill Baptist Register." The Free Communion Baptists or Free

Baptists, a separate denomination until 1841, united with them in that year; but the Freewill Baptist General Conference withdrew subsequently from 4000 of their own members in North Carolina, on the question of slavery, and refused to receive about 12,000 more from Kentucky, who applied, on the same grounds.

III. THE SEVENTH DAY BAPTISTS, differ from Regular Baptists only in the observance of the seventh, instead of the first day of the week for religious worship. Their first church in the United States was organized in 1671. They practice restricted communion, are Calvinistic in doctrine, and independent in church polity. They had in 1870, seventy-five churches, eighty-two ministers, and 7,336 members. They sustain missions in China and Palestine, and have a Home Missionary organization, an Education Society, and a tract and publishing house. They issue a weekly, a monthly, and a quarterly religious periodical. They have a flourishing college, Alfred University, at Alfred, Alleghany Co., N. Y., with 16 teachers and 364 students, and a good academy, the "De Ruyter Institute," at De Ruyter, Madison Co., N. Y. There are also a few churches of GERMAN SEVENTH DAY BAPTISTS, seceders from the Tunkers or German Baptists, in Franklin, Bedford, and York counties, Pa. They are inclined to monasticism, or the community life, and number but a few hundreds.

IV. THE SIX PRINCIPLE BAPTISTS are a small body, mostly confined to Rhode Island, but having a few congregations in Massachusetts, New York, and Pennsylvania. They are Arminian in doctrine. Their six principles are those stated in Hebrews, vi:1, 2. Their rite of "laying on of hands" is analogous to Episcopal confirmation, and is their principal distinguishing point. Their ministers are not generally well educated, and receive no stated support. They are generally opposed to missions and to most of the reforms of the day. The denomination originated in 1639, but has not grown rapidly. It now numbers about 20 churches, 18 ordained ministers, and 3,300 members. They have no periodical, and no schools or colleges.

THE OLD SCHOOL OR ANTI-MISSION BAPTISTS, are diminishing every year in numbers, but have their churches scattered through most of the states of the Union, except New England. They are generally

hyper-calvinistic or anti-nomians, in doctrine, and oppose strongly missions, Sunday schools, temperance societies, and all agencies not mentioned in the Scriptures. Their ministers are not generally educated, and seldom or never receive any salary. Fifty years ago the number of these churches was very large, but they have dwindled to a few hundreds, and their membership to perhaps, 45,000. They have no schools or colleges, but have several periodicals, one of them, "The Signs of the Times," being published semi-monthly, at Middletown, Orange Co., N. Y.

VI. THE DISCIPLES OF CHRIST, OR CHURCH OF CHRIST, or, as they are often called, though they do not acknowledge the name, CAMPBELLITES, are a body of Baptists, who owe their origin, as a distinct denomination, mainly to the labors of Thomas and Alexander Campbell, two Presbyterian clergymen, father and son, who settled in Western Pennsylvania, in 1808. They originally belonged to the "Seceders," one of the denominations which had come off from the Scottish Kirk. The first effort of Mr. Thomas Campbell, in which his son joined him very heartily, was to effect a union of the different Protestant denominations of that region, by an agreement to reject all creeds and confessions of faith, and take the Scriptures only as the rule of faith and practice, seeking to come at their meaning by earnest prayer, and careful study. A considerable number joining in this work, a small congregation was formed in Washington Co., Penn., known as the "Brush Run Church," Sept. 10, 1810. Of this church Thomas Campbell was the elder or pastor, and by it, his son, Alexander, was ordained to the ministry. Careful and prayerful study of the Bible for nearly two years, brought the Campbells and several of their followers to the conclusion that the Scriptures taught "the immersion of believers," and they with five others, were accordingly baptized in June, 1812, by a Baptist minister. Within the next three years, their adherents had increased to five or six considerable congregations, and they united with the Redstone Baptist Association, stipulating, however, in writing "that no terms of union or communion, other than the Holy Scriptures, should be required." Some difficulty arising in the Association in consequence of their measures, they withdrew and joined the Mahoning (Ohio) Association, which soon became

fully identified with the movement. In 1823 Alexander Campbell, a man of extensive scholarship, and remarkable logical and dialectic powers, commenced the publication of "The Christian Baptist." This periodical was edited with great ability, and through its very large circulation, aided by his extensive tours, and his public discussions with the leading men of different denominations, his peculiar views spread widely among the Baptists and other denominations, throughout the Middle and Northwestern States. Though acknowledging no creed or confession of faith, and making his motto "Faith in the Testimony of God, and obedience to the commandments of Christ, the only bond of union," Mr. Campbell did use a phraseology in the enunciation of his doctrines which was liable to perversion, and was, in fact, often perverted. He insisted that the Scriptures commanded "baptism for the remission of sins," and as Peter replied in Acts, ii: 38, to those who asked what they should do: "Repent and be baptized, every one of you, in the name of Jesus Christ, for the remission of sins, and ye shall receive the gifts of the Holy Ghost," so he would have the Christian minister now baptize all who professed to be penitent, for the remission of their sins, and the assurance of pardon, and the gifts of the Holy Spirit. His own views were decided that penitence and faith were necessary to salvation, but that the assurance of this pardon and salvation was to be attained through submission to this initiatory rite. To many of the Baptist churches, it seemed that this was opening the door to a belief in baptismal regeneration, a doctrine abhorrent to them as to most Protestants, and in 1827 the excision of Mr. Campbell's followers commenced, and was carried on unsparingly for many years after. Their exclusion from the regular Baptist churches led to their forming churches and associations of their own, and their numbers were largely augmented by the accession of a body known as Reformers, who, by an independent process, had reached substantially the same conclusions with them. The "Disciples," owing to their somewhat peculiar and vague phraseology in avowing their faith, have been charged with Unitarianism, as well as some other heresies; but it is now very generally conceded that they are Trinitarians, and that they do not differ in the cardinal doctrines of the Bible from other Evangelical Christians. That their formula

on the subject of baptism has led some astray and prejudiced the minds of others, is probably true; but judged by the tests of Christian activity and evangelical labor, they are perhaps little, if at all, behind other denominations. Their only distinctive practice, aside from the baptismal formula, is the observance of the ordinance of the Lord's Supper weekly. They recognize three orders of church officers, viz: 1. Elders, presbyters, or bishops, terms which they regard as synonymous; 2. Deacons; 3. Evangelists. The last are their itinerant ministry or missionaries, and are supported by voluntary contributions. They are very earnest in their support of educational institutions, and of organizations for the distribution of the Scriptures. Their distinguished leader died in 1866, at the age of 77, after performing an amount of intellectual labor greater than falls to the lot of one educated man in a thousand. He had written largely on theological subjects, edited for more than forty years a very able religious periodical, conducted successfully five or six protracted public discussions, founded, and taught large classes in a college of good repute, and preached many thousand sermons.

The "Disciples" at the time of his death had 1,612 preachers (elders or bishops) a large number of evangelists, and 424,250 members. Their present number of preachers of both classes is estimated at about 3,000, their congregations at nearly 5,000, and their membership at about 512,000. The educational institutions organized and supported by the "Disciples," are Kentucky University at Lexington, Ky.; Bethany College, Bethany, West Virginia; a College at Indianapolis, Ind.; Eureka College and Abingdon College, at Eureka and Abingdon, Ill.; Oskaloosa College, Iowa; Wilmington College, Wilmington, Ohio; Franklin College, near Nashville, Tenn.; Woodland College, California; Jeffersonton and Eminence, Kentucky; female colleges at Columbia, Missouri, Versailles, and Harrodsburg, Ky., and Bloomington, Ill.; and 12 Academies and Seminaries. They have twenty-three periodicals, of which 9 are weekly, 13 monthly, and one quarterly. The "*Millennial Harbinger*," a monthly, succeeded the "*Christian Baptist*," Dr. Campbell's first periodical, and was edited by him till his death.

VII. THE CHRISTIAN CONNECTION, often but improperly called CHRIST-ANS, are a body of religionists who claim a threefold

origin. In North Carolina, in 1793, a considerable number of churches seceded from the Methodist Episcopal Church under the leadership of Rev. J. O. Kelley, and others, and first took the name of Republican Methodists, but afterward making the Bible their sole standard of faith, and having become convinced of the necessity of immersion on the profession of faith, they adopted the name of "*Christians*." In 1800, Dr Abner Jones, Elias Smith, and other members of a Baptist church in Hartland, Vermont, knowing nothing of the action of these North Carolina churches, separated from the church with which they were connected and organized a church at Lyndon, Vermont, on the principle of "making the Bible alone their confession of faith." This soon grew in numbers and other churches were constituted on the same principle. In 1801, after the great revival in Kentucky and Tennessee, which led to the organization of the Cumberland Presbyterian Church, Rev. B. W. Stone, and four other Presbyterian ministers of Kentucky, withdrew, and adopting soon after the name of "*Christians*," organized churches and formally proclaimed their principles in 1804. These three bodies originating in as many denominations, came together in a general convention two or three years later and became one body. They have two Quadrennial Conferences, the United States and the Southern. Their first weekly periodical, "*The Herald of Gospel Liberty*," was one of the first if not the first of the religious newspapers published in the United States, and is still maintained.

Admitting no creed or confession of faith, and allowing all its adherents to interpret the Scriptures for themselves, the Christian Connection necessarily allows a wide range of doctrinal belief, and it is somewhat difficult to determine what are their doctrinal views. A considerable portion, especially in the Western and Central States, are not Trinitarians. They hold that there is one God, the God of the Bible; that Christ is a divine being, pre-existent, and the mediator between God and man; that Christ's sufferings and death atone for the sins of all men, who, by repentance and faith, may be saved. They believe immersion the only proper mode, and believers the only proper subjects of baptism. Communion at the Lord's table is open to believers of all denominations. In regard to church government and polity, each church is theoretically and practically

independent. They have annual State Conferences, composed of ministerial and lay delegates from the churches which receive and ordain pastors, but can pass no laws binding the several churches. Their General Convention or Conference has Missionary, Educational, Publishing, and Sabbath School departments, each of which are in a prosperous condition. They have a publishing establishment at Dayton, Ohio, from which are issued, the *Gospel Herald*, a weekly, the *Sunday School Herald*, a monthly periodical, a *Quarterly Review*, and a *Christian Register*, annually, and the books and tracts of the denomination. The "*Herald of Gospel Liberty*," now (1871) in its sixty-third year, is still published at Newburyport, Mass. There was also, previous to the war, a publishing establishment of the denomination at Suffolk, Va., and "*The Christian Sun*," the organ of the Southern churches, was published there. The printing establishment was destroyed and its funds lost during the war, but the paper, though discontinued for the time, was revived in 1867. There is great difficulty in ascertaining accurately the statistics of the "*Christian Connection*." At the West they are often confounded with "*The Disciples*," with whom many of them fraternize. They have about 70 Conferences, and it is estimated 3,000 ministers, 5,000 churches, and about 300,000 members. Their educational institutions are Antioch College, Ohio, which has been aided largely by the Unitarians, Union Christian College, Indiana, Le Grand Institute, Iowa, Wolfsborough Seminary, New Hampshire, and Starkey Seminary, New York. We can obtain no statistics of their Sabbath Schools.

VIII. THE MENNONITES, a denomination of Baptists, first known in Holland as the followers of Simonis Menno in the sixteenth century. They settled in and about Germantown, Penn., in 1683, and in Lancaster County, Penn., in 1709. They have since spread over a great portion of Pennsylvania, and have churches also in Maryland, Virginia, Ohio, Indiana, New York, and Canada. Their doctrines are, in general, similar to those of the regular Baptist churches, except that some of them admit the validity of sprinkling as baptism. They observe the ordinance of "*Washing the Saints' feet*," and forbid their members to marry any except those who are members of the church. They resemble the Friends in their aversion to

legal oaths, to war, and to capital punishment. They are divided into three parties, or sub-sects: the Old Mennonites, the Reformed Mennonites, who came off in 1811; and the Amish Church or Hooker Mennonites. All profess to agree to the standard or confession of faith adopted at Dort, Holland in 1632. The statistics of the denomination, as well as its history, are very imperfectly known. According to their journals they had, in 1859, 128,000 members in America; but later statistics (in 1869) which do not, however, include Canada, where they are considerably numerous, put their number in the United States at 60,000, with about 400 churches, and perhaps 450 ministers. In 1860, the eighth census reported their church edifices as having only sittings for 37,000, but these returns were so fallacious that little dependence could be placed upon them. The denominations are not apparently increasing with any great rapidity. They have one English, and two German newspapers, and a German and an English Almanac, all published at Elkhart, Ind., except one of the German papers, which is issued from Milford Square, Penn. There are no colleges, we believe, under their special care or patronage.

IX. BRETHREN, GERMAN BAPTISTS, TUNKERS OR DUNKERS. A small body of Baptists, who originated at Schwartzenu, Germany, in 1708, but were driven to America by persecution in 1719. They are found mostly in Pennsylvania, Ohio, and Virginia, Maryland, and Indiana. In doctrine they incline to Arminianism, believing in a general redemption, though in other doctrines, they refer to the confession of Dort, which is Calvinistic. They have been charged with believing in the final restoration of the wicked to heaven and happiness, but the doctrine is not a part of their public teaching, and is not perhaps generally held by them. They practice trine immersion, and in baptism incline the body forward instead of backward as other Baptists do. They also practice laying on of hands and prayer, while the person baptized is still in the water. The Lord's Supper is celebrated with its accompanying usages of love feasts, the washing of feet, the kiss of charity, and the right hand of fellowship. They also anoint the sick with oil for their recovery. In other matters they resemble the Friends, using great plainness of dress and speech, refusing to take legal oaths, and to engage in war.

They will not go to law, and generally will not take interest on money lent. They have bishops or ministers, elders or teachers, deacons, and deaconesses, the latter being aged women set apart for this special work. The ministers or bishops alone receive ordination. Until recently, questions were decided by lot instead of by voting. Their statistics in 1866 were 200 churches, 150 ministers or bishops, about 500 elders, and 20,000 members. They have recently established Sabbath Schools, though a branch of them, (the Seventh Day Dunkers,) maintained a Sunday School at Ephratah, Penn., from 1740 to 1770.

X. CHURCH OF GOD OR WINEBRENNERIANs, a denomination of Baptists, organized in 1830, by Rev. John Winebrenner, formerly a minister of the German Reformed Church at Harrisburg, Pa., where he was settled in 1821. He was very successful in his pastorate, and great revivals took place in his congregations, but he was charged with deviating from the doctrines and practice of the German Reformed Church. In 1830 he withdrew from the church, and held a meeting with some other preachers, in which it was resolved that the only scriptural name for the one true Church was "The Church of God," and that they would henceforth belong to that church only. At the same time Mr. Winebrenner avowed the change of views to which he had been led, which was accepted by the others.

The doctrines then advanced are substantially those of "The Church of God" to-day. The general tone of her doctrines is thoroughly evangelical though inclined rather to the Arminian than the Calvinistic view. So far as baptism, in mode and subjects, is concerned they are in unison with the regular Baptists. Their peculiar views of doctrine and polity are thus expressed by themselves:—She ("The Church of God") believes in three positive ordinances of perpetual standing in the church, viz., Baptism, Feet-Washing, and the Lord's Supper.—She believes that the ordinance of feet-washing, that is, the literal washing of the saints' feet, according to the words and example of Christ, is obligatory on all Christians, and ought to be observed by all the churches of God.

She believes that the Lord's Supper should be often administered, and to be consistent, to Christians only, in a sitting posture and always in the evening.

She believes in the propriety and utility

of holding fast days, experience meetings, anxious meetings, camp meetings, and other special meetings of united and protracted efforts for the edification of the church, and the conversion of sinners.

She believes in the personal coming and reign of Jesus Christ. There are also articles in her confession of faith against the manufacture, traffic, and use of ardent spirits as a beverage, against slavery as impolitic, and unchristian, and against civil wars as unholy and sinful and that the saints of the Most High ought never to participate in them.

Her church government is somewhat peculiar. She claims to be independent and Congregational, yet each church has its council, composed of the preachers in charge, and the elders and deacons, which has all the powers of the session of a Presbyterian, or the consistory of a Reformed church.

She has also her annual Elderships, consisting of all the pastors, and an equal number of ruling elders within a given district, and her Triennial General Eldership, consisting of delegates from the Annual Elderships, who, if preachers, must have been at least five years in the ministry. This General Eldership owns and controls all the common property of the church. Her officers are ministers, who may be either stationed pastors, itinerants on circuits, or missionaries at large; ruling elders, and deacons. The church has a domestic and a foreign missionary society, and a printing establishment. They issue a weekly paper "*The Church Advocate*," a Sunday School paper, and a German weekly paper. They have two colleges, one at Centralia, Kansas, and another as yet only partly organized. Their numbers were estimated in 1870, at 400 churches, 350 ordained ministers, and 30,000 members. They are found mostly in Pennsylvania, Ohio, Indiana, Illinois, Iowa, Michigan, and Kansas.

IV. PRESBYTERIANS.

I. THE PRESBYTERIAN CHURCH IN THE U. S. AMERICA. (North.) This large and respectable body of Christians, trace their origin as a denomination in this country to the Scottish Kirk, or Established Church of Scotland, to which most of the early Presbyterians in this country had belonged previous to their emigration hither. The first

Presbyterian church in the Colonies is believed to have been the Rehoboth church in Maryland, organized in 1690; that on Elizabeth River, Virginia, was formed about the same time, and those of Freeland, and Woodbridge, N. J., not later than 1692. The first presbytery, (that of Philadelphia,) was formed in 1706, and a synod of four presbyteries in 1716. A division took place between the "Old Side" and the "New Side" or "New Lights," in the synod (the synod of Philadelphia) in 1741; the "Old side" insisting upon a thoroughly educated ministry, and the strict observance of Presbyterianial order in accordance with the rules of the Scottish Kirk, while the "New Side" or "New Lights," who had been to some extent under the influence of Whitfield and his followers, required conclusive evidence of experimental religion in the candidates for the ministry, and a good, but not necessarily a collegiate education, and were less strenuous on the minutiae of Presbyterianial order. This division continued for 17 years, when the two parties came together and the two synods were united under the name of the "Synod of New York, and Philadelphia." At the close of the Revolutionary war, there were about 170 Presbyterian ministers, and rather more than that number of churches, with an entire membership of less than 20,000. In 1788 a committee of the Synod had completed the revision of the standards of doctrine and polity of the church, and recommended its reorganization into four synods, and a General Assembly over the whole. This recommendation was adopted, and taking a new departure from the great revivals of 1800, 1801, and 1802, the church began to grow with considerable rapidity. In 1801 a "plan of Union" was arranged between the Presbyterians and Congregationalists in the new settlements to prevent disagreement between the two denominations, and to facilitate their coöperation in missionary enterprises. This continued 36 years. There had been evidently two parties in the Presbyterian church prior to 1830, but there had been no decided collision between them until about 1835, when some test cases led to a division, and the excision of four synods from the General Assembly in 1837. At this time the New School General Assembly was formed, and for thirty-three years there were two General Assemblies, both calling themselves the General Assembly of the Presbyterian Church in the United States of

America; both holding professedly to the same standards and alike in church polity as well as in doctrine. They were distinguished as the Old School and the New School General Assemblies. Each had their missionary, and publication organizations, though the New School body coöperated for many years with the American Board of Commissioners for Foreign Missions, and the American Home Missionary Society. In 1870, after a discussion and balloting for nearly two years on the details, the two General Assemblies, with their entire constituency reunited, and now form one body. The Southern synods, the larger portion of them belonging to the Old School branch, seceded from the General Assembly, those heretofore belonging to the New School in 1857, and those of the Old School in 1861, and eventually coalesced in the General Assembly of the Presbyterian Church, south. Overtures have since been made to them for reunion with the now United church in the Northern states, but they have been thus far repelled.

The Presbyterian church recognizes and avows the necessity of doctrinal standards of faith, and adopts as its standard, The Westminster Assembly's Confession of Faith, and Exposition of doctrine, as contained in the shorter and larger catechisms of that body. We have not space to give the whole of these, but insert below, those which are distinctive in their character, giving only the answers to the questions of the shorter catechism, as these contain the declarative portion of the confession. It is hardly necessary to say that this confession is always in accordance with the principles, and often uses the very phraseology (translated) of Calvin in his celebrated Institutes, and is sustained by abundant references to scripture on each point.

“ 1. Man's chief end is to glorify God, and to enjoy Him forever.

2. The Word of God, which is contained in the Scriptures of the Old and New Testaments, is the only rule to direct us how we may glorify and enjoy him forever.

3. The Scriptures principally teach what man is to believe concerning God, and what duty God requires of man.

4. God is a spirit, infinite, eternal and unchangeable, in his being, wisdom, power, holiness, justice, goodness, and truth.

5. There is but one only, the living and true God.

6. There are three persons in the God-

head, the Father, the Son, and the Holy Ghost, and these three are one God, the same in substance, equal in power and glory.

7. The decrees of God are his eternal purpose, according to the counsel of his will, whereby for his own glory, he hath fore-ordained whatsoever comes to pass.

8. God executes his decrees in the works of creation and providence.

9. The work of creation is, God's making all things of nothing, by the word of his power, in the space of six days, and all very good.

10. God created man, male and female, after his own image, in knowledge, righteousness, and holiness, with dominion over his creatures.

11. God's works of providence are, his most holy, wise, and powerful preserving and governing all his creatures, and all their actions.

12. When God had created man, he entered into a covenant of life with him, upon condition of perfect obedience; forbidding him to eat of the tree of knowledge of good and evil, upon the pain of death.

13. Our first parents being left to the freedom of their own will, fell from the estate in which they were created, by sinning against God.

14. Sin is any want of conformity unto, or transgression of, the law of God.

15. The sin whereby our first parents fell from the estate wherein they were created was their eating the forbidden fruit.

16. The covenant being made with Adam, not only for himself, but for his posterity; all mankind descending from him by ordinary generation, sinned in him, and fell with him, in his first transgression.

17. The fall brought mankind into an estate of sin and misery.

18. The sinfulness of that estate wherinto man fell, consists in the guilt of Adam's first sin, the want of original righteousness, and the corruption of his whole nature, which is commonly called original sin, together with all actual transgressions which proceed from it.

19. All mankind by their fall lost communion with God, are under his wrath and curse, and so made liable to all the miseries of this life, to death itself, and to the pains of hell forever.

20. God having out of his mere good pleasure, from all eternity, elected some to everlasting life, did enter into a covenant of

grace to deliver them out of the estate of sin and misery, and to bring them into an estate of salvation by a Redeemer.

21. The only Redeemer of God's elect is the Lord Jesus Christ, who, being the Eternal Son of God, became man, and so was and continues to be God and man, in two distinct natures and one person, forever.

22. Christ, the Son of God, became man, by taking to himself a true body and a reasonable soul, being conceived by the power of the Holy Ghost, in the womb of the Virgin Mary, and born of her, yet without sin.

23. Christ, as our Redeemer, executes the offices of a prophet, of a priest, and of a king, both in his estate of humiliation and exaltation.

24. He executes the office of a Prophet in revealing to us, by his Word and Spirit, the will of God for our salvation.

25. He executes the office of a Priest, in his once offering up himself a sacrifice, to satisfy divine justice, and reconcile us to God; and in making continual intercession for us.

26. He executes the office of a King, in subduing us to himself, in ruling and defending us, and in restraining and conquering all his and our enemies.

27. Christ's humiliation consisted in his being born, and that in a low condition, made under the law, undergoing the miseries of this life, the wrath of God, and the accursed death of the cross; in being buried, and continuing under the power of death for a time.

28. His exaltation consists in his rising again from the dead on the third day, in his ascending up into Heaven, in his sitting on the right hand of God the Father, and in his coming to judge the world at the last day.

29. We are made partakers of the redemption purchased by Christ, by the effectual application of it to us by his Holy Spirit.

30. The Spirit applies to us the redemption purchased by Christ, by working faith in us, and thereby uniting us to Christ, in our effectual calling.

31. Effectual calling is the work of God's Spirit, whereby convincing us of our sin and misery, enlightening our minds in the knowledge of Christ, and renewing our wills, he doth persuade and enable us to embrace Jesus Christ, freely offered to us in the gospel.

32. They that are effectually called, do, in this life, partake of justification, adoption, sanctification, and the several benefits, which,

in this life, do either accompany or flow from them.

33. Justification is an act of God's free grace, wherein he pardons all our sins, and accepts us as righteous in his sight, only for the righteousness of Christ, imputed to us, and received by faith alone.

34. Adoption is an act of God's free grace, whereby we are received into the number, and have a right to all the privileges of, the sons of God.

35. Sanctification is the work of God's free grace, whereby we are renewed in the whole man, after the image of God, and are enabled more and more to die unto sin, and live unto righteousness.

36. The benefits which, in this life, do accompany or flow from justification, adoption and sanctification, are, assurance of God's love, peace of conscience, joy in the Holy Ghost, increase of grace, and perseverance therein to the end.

37. The souls of believers are, at their death, made perfect in holiness, and do immediately pass into glory; and their bodies being still united to Christ, do rest in their graves till the resurrection.

38. At the resurrection, believers being raised up in glory, shall be openly acknowledged and acquitted in the day of judgment, and made perfectly blessed in the full enjoyment of God to all eternity.

39. The duty which God requires of man is obedience to his revealed will.

40. The rule which God at first revealed to man for his obedience, was the moral law.

41. The moral law is summarily comprehended in the ten commandments.

42. The sum of the ten commandments is, to love the Lord our God, with all our heart, with all our soul, with all our strength, and with all our mind; and our neighbor as ourselves."

(Then follow in the Catechism, forty questions and answers, comprising the words of the ten commandments and expositions of their teaching, not necessary to be inserted here, and the Catechism then proceeds with answer.)

"82. No mere man, since the fall, is able, in this life, perfectly to keep the commandments of God, but doth daily break them, in thought, word, and deed.

83. All transgressions of the law are not equally heinous, some sins in themselves, and by reason of several aggravations,

being more heinous in the sight of God than others.

84. Every sin deserves God's wrath and curse, both in this life, and that which is to come.

85. To escape the wrath and curse of God, due to us for sin, God requireth of us faith in Jesus Christ, repentance unto life, with the diligent use of all the outward means whereby Christ communicateth to us the benefits of redemption.

86. Faith in Jesus Christ is a saving grace, whereby we receive and rest upon him alone for salvation, as he is offered to us in the gospel.

87. Repentance unto life is a saving grace whereby a sinner, out of a true sense of his sin, and apprehension of the mercy of God in Christ, doth with grief and hatred of his sin turn from it unto God, with full purpose of, and endeavor after, new obedience.

88. The outward and ordinary means whereby Christ communicateth to us the benefits of redemption, are his ordinances, especially the word, sacraments, and prayer; all which are made effectual to the elect for salvation.

89. The Spirit of God maketh the reading, but especially the preaching of the word, an effectual means of convincing and converting sinners, and of building them up in holiness and comfort, through faith, unto salvation.

90. That the word may become effectual to salvation, we must attend thereunto with diligence, preparation, and prayer; receive it with faith and love; lay it up in our hearts, and practise it in our lives.

91. The sacraments become effectual means of salvation, not from any virtue in them, or in him that doth administer them; but only by the blessing of Christ, and the working of His Spirit, in them that by faith receive them.

92. A sacrament is a holy ordinance instituted by Christ wherein by sensible signs, Christ and the benefits of the new covenant are represented, sealed, and applied to believers.

93. The sacraments of the New Testament are Baptism and the Lord's Supper.

94. Baptism is a sacrament wherein the washing with water, in the name of the Father, and of the Son, and of the Holy Ghost, doth signify and seal our engrafting into Christ, and partaking of the covenant of grace, and our engagement to be the Lord's.

95. Baptism is not to be administered to any that are out of the visible church till they profess their faith in Christ and obedience to him; but the infants of such as are members of the visible church are to be baptized.

96. The Lord's Supper is a sacrament wherein by giving and receiving bread and wine, according to Christ's appointment, his death is showed forth; and the worthy receivers are, not after a corporeal and carnal manner, but by faith, made partakers of his body and blood, with all his benefits, to their spiritual nourishment and growth in grace.

97. It is required of them that would worthily partake of the Lord's Supper, that they examine themselves of their knowledge to discern the Lord's body, of their faith to feed upon him, of their repentance, love and new obedience, lest, coming unworthily, they eat and drink judgment to themselves.

98. Prayer is an offering up of our desires to God for things agreeable to his will, in the name of Christ, with confession of our sins, and thankful acknowledgment of his mercies.

99. The whole word of God is of use to direct us in prayer, but the special rule of direction is that form of prayer which Christ taught his disciples, commonly called the *Lord's Prayer*.

100. The preface of the Lord's Prayer (*Our Father which art in Heaven*) teacheth us to draw near to God with all holy reverence and confidence, as children to a Father, able and ready to help us; and that we should pray with and for others.

101. In the first petition (*Hallowed be thy name*), we pray that God would enable us, and others, to glorify him in all that whereby he maketh himself known, and that he would dispose all things to his own glory.

102. In the second petition (*Thy kingdom come*), we pray that Satan's kingdom may be destroyed, and that the kingdom of grace may be advanced, ourselves and others brought into it, and kept in it, and that the kingdom of glory may be hastened.

103. In the third petition (*Thy will be done on earth as it is in Heaven*), we pray, that God, by his grace, would make us both able and willing to know, obey, and submit to his will in all things, as the angels do in Heaven.

104. In the fourth petition (*Give us this day our daily bread*), we pray that of God's free gift, we may receive a competent portion of the good things of this life, and enjoy his blessing with them.

105. In the fifth petition (*Forgive us our debts, as we forgive our debtors*), we pray, that God, for Christ's sake, would freely pardon our sins; which we are the rather encouraged to ask, because by his grace, we are enabled from the heart to forgive others.

106. In the sixth petition (*And lead us not into temptation, but deliver us from evil*), we pray that God would either keep us from being tempted to sin, or support and deliver us when we are tempted.

107. The conclusion of the Lord's Prayer (*For thine is the kingdom, and the power and the glory, forever, Amen.*) teacheth us to take our encouragement to prayer from God only, and in our prayers to praise Him, ascribing kingdom, power, and glory to Him. And in testimony of our desire and assurance to be heard, we say, AMEN.

It will be seen from the 95th article, that the Presbyterian Church, as well as some of the denominations which follow in this volume, is *Pædo-baptist* or holds to the doctrine of infant baptism, in distinction from the churches of the Baptist group which administer baptism only to believers. It also differs from all the churches which we have previously described, in its church government and polity. The Presbyterian form of church government characterizes (under somewhat different names, but with the same meaning) all the churches which are affiliated with the Presbyterian, and it may therefore be described here once for all. Their government is representative rather than democratic. They recognize two classes of elders (presbyters); the teaching elder or minister of the word, and the ruling elder, a representative of the people, and their agent and ruler in matters pertaining to the church. While they have but one teaching elder or preacher, generally a pastor, to the church, they have two, four, or more, ruling elders, who, with the teaching elder and deacons, constitute the church session, which governs the church in all matters of doctrine and discipline, and being elected for that purpose also, has charge of the temporalities of the church. The church court next above the church, and, in ordinary cases, the leading judicatory, is the presbytery, composed of the teaching elders or preachers, and one ruling elder in each church within its bounds. The ordaining, recognition, and dismissal of pastors are conducted by the presbytery, on the application of the minister and the church

with which he is, or is to be, officially connected. (It is noteworthy that very often the minister is not a member of the church to which he ministers.) Difficult cases of discipline, or those in which there are two parties in a church, come before the presbytery for adjudication; and all charges of heresy, or misconduct against any of its ministers, is brought before it for trial and investigation. Above the presbytery in the gradation of church courts, is the synod, composed of a certain number of presbyteries, and when in session consisting of delegates from each presbytery, lay and clerical. It is a court of appeal from the presbytery, and its wider range of territory and larger number of able ministers and elders gives it some advantages. The final court of resort in all church matters is, however, the General Assembly or General Synod, composed of commissioners, clerical and lay, from the Synods. This General Assembly possesses entire control over the church action, the doctrinal soundness, and the educational and benevolent institutions of the denomination, and is, in its assembled capacity, the embodiment of the Presbyterian Church in America, or of the other organizations which it represents. Its sessions are annual, and usually continue for two or three weeks, and sometimes even longer. The Presbyterian Churches seem to have for their specialty the discussion of the doctrines of their confession of faith, and the detection of any and every form of heresy. Months and years of their history have been devoted to these discussions, and, while these are certainly important, there is danger that in these dialectic struggles their strength will be so far expended that they will hardly keep pace with the other denominations in growth and progress. Still they are one of the strongest and most efficient of the evangelical denominations in the United States, and are likely to do more efficient work in the future than they have in the past. They have shown a most commendable liberality recently. During the year ending in May, 1871, the new reunited Presbyterian Church had contributed to a memorial fund for building and paying the debts on church edifices, endowing colleges and theological seminaries, planting new missions, etc., etc., the magnificent sum of \$8,600,000, aside from their regular contributions to missionary, publication, educational, and other objects, and the

expenditure for current church expenses, salaries, etc., which amounted to about \$8,000,000 more.

The statistics of the "Presbyterian Church in the U. S. A.," for 1870, were as follows:

There were 51 synods; 259 presbyteries; 4,238 ordained ministers; 338 licentiates and 541 candidates for licensure; 4,526 churches; 446,561 communicants; 32,003 were added on examination, and 21,447 on certificate; 10,122 adults and 16,476 infants baptized; 448,857 members of the Sabbath Schools. The benevolent contributions (not including any part of the memorial fund mentioned above) \$8,440,121. The net gain in the number of communicants in the year 1870-1 was 8,817, and the whole number of members reported May, 1871, 455,378.

II. PRESBYTERIAN CHURCH, IN THE UNITED STATES (South) — This body is composed of the seceders, who came off from the New School Presbyterian Church in 1857, and who joined the Southern General Assembly in 1863, and the seceders from the Old School Presbyterian Church, who left it in 1861, and immediately formed the Southern General Assembly. The secession, in both instances, was based mainly on the position of the two Northern General Assemblies on the question of Slavery, and in the latter case also because that in the war then just commenced, the Old School General Assembly avowed its loyalty and adherence to the Union. During the war there were hasty, and, perhaps, injudicious resolutions passed on both sides, and to the overtures which have since been made by the re-united Presbyterian Church for their return, the Southern General Assembly has replied "that they do not approve of a union with the Northern Church because it is a total surrender of all fundamental doctrines, and embraces all shades of belief." "The Southern Church," they say, "is the only surviving heir of true, unfailing testimonies, and there are impassable barriers to official intercourse between the two churches."

Their doctrinal standards, and their church government and polity, are identical with that of the Northern church.

Their statistics in 1870 were as follows: There were 11 synods, 55 presbyteries, 840 ordained ministers, 52 licentiates, and 161 candidates, for licensure; 1,469 churches, 82,014 members reported (206 churches did not report the number of members); 5,048 members added on examination, and 2,851

on certificate; 1,529 adults, and 3,555 children baptized; 47,317 Sunday School scholars, \$72,335 contributed to benevolent objects and church expenses.

III. UNITED PRESBYTERIAN CHURCH OF NORTH AMERICA. The body bearing this name in the United States is entirely different in its origin from the United Presbyterian Church of Scotland and Canada, though holding nearly the same views of doctrine and polity. The Scottish United Presbyterian Church is composed of the United Secession Church (itself a coalition of the Burgher and Anti-Burgher Synods) and the Relief church, both secessions from the established Kirk of Scotland on the ground of its corruption in doctrine and practice, and its enforcement of the settlement of ministers named by the heritors or aristocracy, against the will of the people. These two organizations came together and formed the Scottish United Presbyterian Church (which has a large and efficient branch in Canada) in 1847. The United Presbyterian Church, in the United States, was constituted in 1858 by the union of the Associate Reformed, and the Associate Presbyterian churches. Of these two bodies, the former was an agglomeration of small bodies of Covenanters, Associates, Reformed, and Burgher Presbyterians, which came together in 1782 and formed a synod composed of three presbyteries at Philadelphia. In 1803 they had increased so as to form four provincial synods, New York, Pennsylvania, Scioto, and the Carolinas, under one representative general synod. Two of these provincial synods (Scioto and the Carolinas) afterward became independent. The "Associate Presbyterian Church" had a somewhat similar history though it retained its allegiance to the Scottish synod of the church of the same name until 1818. It had had several small secessions from its ranks, which have since formed small presbyterian bodies. At the time of the union of these two churches in the United Presbyterian Church, in 1858, a few churches and ministers protested against the union, and have since connected themselves with some of the smaller organizations. The United Presbyterian Church has two colleges, two academies and theological seminaries at Alleghany, Penn., Xenia, Ohio, Monmouth, Illinois, and Newburgh, New York. Its statistics in 1870 were: 8 synods, 56 presbyteries, 553 ordained ministers, 43 licentiates, 55 students for the ministry, 729

congregations, 69,807 members, of whom 4,182 were received on profession, and 3,935 on certificate; 609 Sabbath Schools were reported with 6,761 officers and teachers, and 42,907 scholars. The total contributions to benevolent and church purposes were \$327,126. The denomination have 5 foreign missions, 19 foreign mission stations, 12 mission churches, 26 missionaries and helpers, and contributed, in 1870, \$63,500 for foreign missionary purposes. They have also successful Home Mission and Freedmen's Mission Boards, and expended on them \$49,481, in 1870. The net increase of members in 1870, over the previous year, was 4,183, but the number of ministers had decreased by 12. The contributions were about \$43,300 more than the previous year.

IV. GENERAL SYNOD OF THE REFORMED PRESBYTERIAN CHURCH. This body in its present organization, originated in 1782 from the ministers of the Reformed Presbyterian church who refused to consent to the union with the Associate Church and maintained their original organization. These were subsequently strengthened by the arrival of several ministers of the Reformed Presbyterian Church of Scotland in 1793, and subsequently. They were organized into a synod of three presbyteries in 1808, and in 1825 constituted a general synod. Their doctrines are those of the Westminster Assembly's Confession of Faith and Catechisms, with the addition of the Declaration and Testimony, in which they express their hostility to the interference of civil government with the affairs of the church, and their unwillingness to be bound by it in matters of conscience. On this point there has been a division among them, and a secession has resulted. The Reformed Presbyterian Church are the lineal and spiritual successors of the Covenanters or Cameronians, and like them have protested earnestly and steadily against a State church and the interference of the State with their ministry and their religious privileges. Even in the last century they were persecuted for these views in Scotland, and it was natural that they should adhere to them with the greater tenacity, but in this country where the State did not interfere with religious worship, and there was no established church, many of the ministers of the Reformed Presbyterian Church felt that there was no necessity for maintaining that hostility or non-intercourse with the civil government which, under the circumstances,

in Scotland, was right and proper; and they accordingly participated, as citizens, in voting and in such civil duties as they deemed right, while protesting against all interference of the civil power in matters of conscience. They, like all the Reformed Presbyterians, were strongly opposed to slavery, and would have no communion with slaveholders or those who defended slavery. A part of their ministers, whose feelings on the subjects of the civil power were intense, and who regarded our national constitution and government as infidel and Godless, withdrew from the General Synod on these grounds in 1833 and formed a separate organization which is now somewhat more numerous than the General Synod. All the Reformed Presbyterians refuse to use any other than inspired hymns and psalms in their worship, and for the want of any more literal metrical translation of the Psalms of David sing from Rouse's version of the Psalms, which, though rough and often uncouth in its translation, has the merit of following very closely the inspired original. The number of ministers of the General Synod in 1870 was 31, of churches 43, and of members about 4,000.

V. THE SYNOD OF THE REFORMED PRESBYTERIAN CHURCH, referred to above, which seceded in 1833, is now much larger than the General Synod, having, in 1870, 87 churches, 86 ministers, 8,577 members, received 435 by profession and 288 by certificate, and expended for benevolent purposes and church expenses about \$144,000.

VI. THE ASSOCIATE REFORMED SYNOD OF THE SOUTH, is the original Associate Reformed Synod of the Carolinas, which, in 1821, became an independent synod and refusing to follow the other associate reformed churches in their union with the Associate Presbyterians to form the United Presbyterian church, has existed as a distinct body. It is small in numbers. It does not differ in doctrine from the Associate Reformed Church or the Reformed Presbyterians, except on the subject of slavery, which it tolerated in its membership. Its growth was very slight for some years, but from 1842 to 1852 it increased quite rapidly; since 1863 there has been a decided falling off; twenty-six of its ministers, and some of the churches, having joined other Presbyterian bodies. In 1870, its statistics were: ordained ministers, 57; probationers, 7; theological students, 6; churches, 66; members, about 6,700. They have a small theological school at Due West,

S. C., and the organ of the church, *The Associate Reformed Presbyterian*, is published at the same place.

VII. THE CUMBERLAND PRESBYTERIAN CHURCH. This body is Presbyterian in its church government and polity but differs from the other Presbyterian churches in its doctrines. It had its origin in the great revival in Kentucky and Tennessee in 1799 to 1803. That revival was mostly among a people nominally attached to the Presbyterian Church, and in the camp meetings which the scattered population rendered necessary, there was a pressing demand for a greater number of ordained ministers to preach and to administer the ordinances. Under this demand some of the members of the newly organized Cumberland Presbytery, felt that it would be desirable to select men of piety, promise, and a fair education, from the laity, and license and ordain them for the work of the ministry. This was accordingly done in a few instances with good results. The Synod of Kentucky, however, regarded this proceeding as irregular and passed a resolution requiring the presbytery to present them for examination to a commission of the synod, and directing the young men to appear. Both the presbytery and the young men refused to submit to this examination, and the Synod, in 1805, in consequence prohibited them from exercising the functions of the ministry. The proscribed ministers, however, continued in the exercise of their ministerial duties, and after in vain appealing to the Synod for a repeal of their action, there was organized, in 1810, in Dickson County, Tennessee, a Cumberland Presbytery entirely independent of the Synod, and of the Presbyterian Church. The special difference between them and the Kentucky Synod is thus set forth in the record of their constitution: "All candidates for the ministry who may hereafter be licensed by this presbytery, and all the licentiates or probationers who may hereafter be ordained by this presbytery, shall be required before such licensure and ordination, to receive and accept the Confession of Faith and Discipline of the Presbyterian Church, except the idea of fatality that seems to be taught under the mysterious doctrine of predestination. It is to be understood, however, that such as can clearly receive the Confession of Faith without an exception, will not be required to make any. Moreover, all licentiates, before they are set apart to the

whole work of the ministry, or ordained, shall be required to undergo an examination in English grammar, geography, astronomy, natural and moral philosophy, and church history. It will not be understood that examinations in experimental religion and theology will be omitted. The presbytery may also require an examination on any part or all of the above branches of knowledge before licensure, if they deem it expedient."

The growth of this new organization was rapid; in 1813 they had three large presbyteries, and a synod was formed in October of that year. A committee was appointed immediately by this Synod to prepare a Confession of Faith, Catechism, and form of Church Government. These, when reported, were adopted at a subsequent session, and remain unchanged to the present time. As would be inferred from the constitution of the Presbytery just quoted, their doctrines are less strongly Calvinistic than those of the Presbyterians generally. Rev. Dr. Beard, formerly President of Cumberland College, Princeton, Ky., thus summarizes their doctrines: "That the Scriptures are the only infallible rule of faith and practice; that God is an infinite, eternal, and unchangeable Spirit, existing mysteriously in three persons, the three being equal in power and glory; that God is the creator and preserver of all things; that the decrees of God extend only to what is for His glory; that He has not decreed the existence of sin, because it is neither for His glory nor for the good of His creatures; that man was created upright in the image of God; but that, by the transgression of the federal head, he has become totally depraved, so much so that he can do no good thing without the aid of divine grace. That Jesus Christ is the mediator between God and man; and that he is both God and man in one person; that he obeyed the law perfectly, and died on the cross to make satisfaction for sin; and that in the expressive language of the apostle, *He tasted death for every man*. That the Holy Spirit is the efficient agent in our conviction, regeneration, and sanctification; that repentance and faith are necessary in order to acceptance, and that both are inseparable from a change of heart; that justification is by faith alone; that sanctification is a progressive work and not completed till death; that those who believe in Christ, and are regenerated by His spirit will never fall away and

be lost; that there will be a general resurrection and judgment; and that the righteous will be received to everlasting happiness, and the wicked consigned to everlasting misery."

The church polity of the Cumberland Presbyterian church does not differ from that of the Presbyterian church; it has its teaching and ruling elders, its sessions, presbyteries, synods, and since 1829 a General Assembly; but as a matter of convenience, they have adopted the itinerant system of the Methodists, and have many of their churches arranged in circuits. They practice infant baptism, and in the baptism of adults, immerse, sprinkle, or pour as the candidate prefers. They have a university, and two colleges, two theological seminaries, and a number of academies of high grade. Their Board of Publication has a small capital, about \$7,000, but is very efficient. They publish three or four periodicals. Their statistics in 1870 were estimated by their own organs as follows: 25 synods, 100 presbyteries, 1674 ordained ministers, 280 licentiates, 320 candidates for the ministry, about 2,000 churches, and over 80,000 members. Nearly 10,000 communicants were added to the church in 1870.

VIII. THE REFORMED (LATE DUTCH) CHURCH. This is the oldest, though by no means the largest of the Protestant churches in the United States, being an offshoot of the Reformed Church of Holland, and first planted in New Amsterdam, now New York City, in 1614, though no church was fully organized before 1628. Its growth was slow for 150 years, being confined almost exclusively to the Dutch speaking portion of the citizens, and its pulpit exercises being entirely in Dutch until near the commencement of the present century. It was dependent upon the church in Holland for the education and ordination of its ministry until 1771, when through the efforts of Rev. Dr. Livingston, the Classis of Amsterdam, with which all the churches here were connected, recommended them to organize as an independent church and make provision for the education of their ministry. Queen's (afterward Rutgers') College, at New Brunswick, was founded about 1770, and a professorship of theology (at first separate from the college) established in New York, with Dr. Livingston as professor, in 1784. After the general substitution of English for Dutch in the preaching of its ministers, the church began

to grow and has maintained a prominent position in New York, New Jersey, and Eastern Pennsylvania, where alone they have any considerable membership. They have outside of these states 52 churches, mostly in Michigan, Illinois, and Wisconsin, and fifteen on missionary ground in India.

The doctrines of the Reformed church, as laid down in the Belgic confession, the Heidelberg catechism, and the Canons of the synod of Dort, do not vary in any important point from those of the Westminster confession of faith and catechisms, and are properly reckoned among the Calvinistic confessions of faith. The polity of the church is also Presbyterian, though with different names for the same things. The *Consistory*, which answers to the church session in the Presbyterian church, is composed of the dominie or pastor, the elders, and the deacons. The elders are chosen for two years, and after an interval of a year may be again elected. The classis answers to the pre-bytery, and the particular synods to the synods of the Presbyterian church, while they have a General Synod instead of a General Assembly. They are active in their missionary enterprises, having missions in Amoy, China, and its vicinity, and in Arcot, India. Until 1857 they were connected in these missionary enterprises with the American Board of Commissioners for Foreign Missions, but in that year they withdrew amicably and have since conducted them successfully alone, and have added a mission in Japan. They have an old and flourishing college (Rutger's) at New Brunswick, and a Theological seminary at the same place. They have a publishing establishment which issues four periodicals, and the denominational Psalmody and other books.

Their statistics for 1870 were, one General Synod, eight particular synods, 33 classes, 464 churches, 493 ministers, and 5 candidates, 38,552 families, 61,444 members, 3421 infants and 974 adults baptized, 3,628 received on confession, and 2,294 by certificate, 48,411 Sunday School scholars. Benevolent contributions, \$1,187,681.63, including those for congregational purposes. In 1868 the different classes voted to drop the word DUTCH from their title, and be henceforth known as THE REFORMED CHURCH.

IX. THE TRUE REFORMED DUTCH CHURCH. In 1822 Rev. Solomon Froeligh, D. D., of Hackensack, and a few other ministers seceded, with their congregations, from

the Reformed (Dutch) Church on the alleged ground of the prevailing laxness in doctrine and discipline, and organized a church with the above title. It has made very little progress, but had in 1862 less than 20 congregations, and about 1500 members.

X. THE REFORMED CHURCH IN THE UNITED STATES. (late GERMAN). This, the last though by no means the least of the American churches which conform to the Presbyterian polity though they do not bear the Presbyterian name, is a descendant, though with some modifications of doctrine, of the Reformed churches of Holland, Germany, France, and Switzerland. Rev. Dr. E. V. Gerhart, the President of its General Synod, and its principal historiographer, states that the first members of the Reformed Church of Germany, who came to the United States in any considerable numbers, were a body of Palatines, who tempted by William Penn's offer of lands, migrated to Pennsylvania and the adjacent colonies, in the early part of the eighteenth century, and many of whom settled east of the Susquehanna. It was among a colony of about 400 of these Palatines who settled in Montgomery county, Penn., about 1727, that Rev. Michael Weiss, one of their number, organized the first German Reformed Church. In the twenty years which followed, they were without ministers, teachers, or church organizations except this parent church and though they had nearly thirty thousand of their people, mostly speaking German only, within a moderate circuit, they were like sheep without a shepherd. Rev. Michael Schlatter, a German Reformed minister from St. Gall, Switzerland, came over in 1746 as a missionary from the synods of North and South Holland, to look after their welfare. A man of great energy, skill, and judgment, he succeeded, after a time, in evoking order from this chaos. He organized churches, administered the sacraments, located pastors, established schools, and at the end of a year and a half, in September, 1747, was able to form the first synod or coetus of the German Reformed Church, consisting of five ministers, and twenty-six elders, who represented forty-six churches, and a population of thirty thousand. He then returned to Europe and succeeded in creating a large fund, the interest of which was devoted to sustaining ministers and school teachers among these people, and brought back with him to America five young ministers, and the promise of a

number more. This first coetus or synod was, like the Reformed Dutch church, subordinate to the classis of Amsterdam, until 1793, when it resolved to become independent, the number of churches having increased to one hundred and fifty, though there were yet but twenty-two ordained ministers. On becoming independent, the coetus became the synod, and the church took the name of The High German Reformed Church in distinction from the Low German or Dutch Reformed Church. There was yet a great scarcity of ministers, and as they had no college or theological seminary, it was found impossible to educate their ministry thoroughly, and many errors and irregularities crept into the church. The standard of faith in the Reformed German church was like that of its Holland sister, the Heidelberg catechism, but unlike the Dutch church, it did not adopt the Belgic confession or the canons of the synod of Dort, as defining the sense in which the postulates of the catechism should be held. The rationalism which during the years 1700-1830 was pervading so many of the German churches, was not without its effect here; and this effect was produced more readily because the services of the church were conducted wholly in German until 1825. After a long struggle, a theological seminary was established in 1824, and after two or three removals, finally located at Mercersburg, Pa., in 1835. A religious periodical in English was established in 1828, and one in German in 1836. In 1830 a high school was established at York, which was removed to Mercersburg in 1835, and in 1836 became Marshall College. Seventeen years later (1853) it was consolidated with Franklin College at Lancaster, and removed to that city. The influence of the theological school, under the hands of its able professors Nevin, Rauch, Schaff, and Gerhart, was felt in crystallizing the church into a unity of doctrine and faith which was greatly in contrast with its previous history. Not that there were no dissidents; in their own ranks there were two parties who opposed the Mercersburg philosophy and theology, as it began to be called those whose sympathies were with the Methodist church, and for whom it was too Calvinistic, and those who adhered to the Belgic confession and the canons of the synod of Dort, or rather went beyond them in their higher Calvinistic leanings. There was also strong opposition manifested to the avowal

boldly made by the Mercersburg theologians that the Church of Rome, despite its many errors, was a part of the Church of Christ, and that Protestantism was a historical continuation of the Church Catholic; opposition also came from without to these views; but on the whole they may be safely asserted to be the views to-day of the great majority of that church. It is a cardinal point in this theology that the Apostle's Creed gives form and vitality to the doctrines of the Heidelberg catechism; and that any explanation of the catechism which leaves this out of the account is defective, and unsound. Rev. Dr. Gerhart thus summarizes the views held by the Mercersburg theologians as thus deduced from the catechism:

“1. Adam, created in the image of God, was endowed with capacity to resist temptation and abide in his original state of life—communion with God; but he transgressed the command of God by a free act of his own will through the instigation of the devil, the head of the kingdom of darkness.

2. The fall of Adam was not that of an individual only, but the fall of the human race.

3. All men are born with the fallen nature of Adam, and are thus under the power of the kingdom of darkness, inclined to all evil, and unapt to any good; and are subject to the wrath of God, who is terribly displeased with their inborn as well as actual sins, and will punish them in just judgment in time and in eternity.

4. The Eternal Law of God, incarnate by the Holy Ghost of the Virgin Mary, true God and true man in one person, is the principle and substance of the new creation.

5. In the mystery of the Word made flesh, the humanity which the Son of God assumed into organic and eternal union with Himself, is the most perfect of supernatural revelation, and the only medium of Divine grace.

6. All the acts of Christ are not those of God or of man separately taken, but the acts of the God-man.

7. His baptism, fasting, and temptation; His miracles and His word; His agony, passion, and death; His descent into Hades; His resurrection from the dead, ascension to heaven, and session at the right hand of God; the coming of the Holy Ghost, and His second advent—all derive their significance and saving virtue from the mysterious constitution of his person.

8. The atonement for the sin of man is the reconciliation of God and fallen humanity in the person and work of Jesus Christ. It is not simply the offering of himself on the cross, but the whole process of resuming human nature into life communion with God, and includes both perfect satisfaction to the law by suffering the penalty and all the consequences of sin, and complete victory over the devil. The full benefit of the atonement inures to the believer, because by faith he is a member of Christ, and a partaker of his anointing, and thus stands before God in the life and righteousness of Christ.

9. The Church constituted by the coming of the Holy Ghost, is the mystical body of Christ, a new, real, and objective order of existence, and is both supernatural and natural, divine and human, heavenly and earthly—the fulness of him that filleth all in all; in whose communion alone there is redemption from sin, and all its consequences, fellowship with God in Christ, and the hope of complete victory over death and hell, and of eternal glory. The relation which the new regenerated humanity, His mystical body, bears to Christ the head, the second Adam, is analogous to the organic relation which the old, fallen, accursed humanity bears to the first Adam.

10. The sacraments are visible, holy signs and seals, wherein God by an objective transaction, confirms to sinners the promise of the Gospel. They are the means, whereby men through the power of the Holy Ghost are made partakers of the substance of divine grace, that is of Christ and all his benefits.

11. Holy baptism is a divine transaction, wherein the subject is washed with the blood and spirit of Christ from all the pollution of his sins as certainly as he is washed outwardly with water; that is, he is renewed by the Holy Ghost, and sanctified to be a member of Christ, that so he may more and more die unto sin, and lead a holy and unblamable life.

12. Baptized persons do not attain unto the resurrection of the dead and eternal life in virtue simply of holy baptism, but only on the condition that, improving the grace of baptism, they believe from the heart on Christ, die unto sin daily, and lead a holy life, and thus realize the full virtue of the incarnation and atonement.

13. The sacrament of the holy supper is the abiding memorial of the sacrifice of our

blessed Saviour, Jesus Christ, for our sins, upon the cross; the seal of his perpetual presence in the church by the Holy Ghost; the mystical exhibition of his one offering of himself made once, but of force always to put away sin; the pledge of his undying love to his people, and the bond of his living union and fellowship with them to the end of time. In the use of this sacrament, believing communicants do not only commemorate his precious death as the one all-sufficient, vicarious sacrifice for their sins, but Christ himself also, with his crucified body and shed blood, feeds and nourishes their souls to everlasting life; that is, by this visible sign and pledge he assures them that they are really partakers of his true body and blood, through the working of the Holy Ghost, as they receive, by the mouth of the body, these holy tokens in remembrance of him.

14. The bread and wine of the holy supper are not transmuted into the very body and very blood of Christ, but continue to be natural bread and wine; nor is the body and blood of Christ consubstantial, that is, in, with, and under the natural bread and wine, but the sacramental transaction is a holy mystery, in which the full life-giving and saving virtue of Christ, mediated through his humanity, is really present by the supernatural power of the Holy Ghost, and communicated to them who, by true faith, eat and drink worthily, discerning the Lord's body.

15. At death the righteous pass into a state of joy and felicity and abide in rest and peace until they reach their consummation of redemption and bliss, in the glorious resurrection of the last day.

16. The second advent of Christ to judge the world in righteousness, will complete the objective order of redemption, and also the subjective process of life and salvation in his body, the church; when the last enemy, which is death, shall be destroyed; when the saints shall come forth from the dead in the full image of their risen Lord, and with Him pass into heaven, the state of perfect blessedness, and the wicked shall rise to the resurrection of eternal damnation."

On points of doctrine not directly connected with the foregoing statements, Dr. Gerhart gives the following summary of the belief of the Reformed Church.

"The church affirms that the person of Christ is the true principle of sound theology; that Christianity is a new life, that the

humanity of Christ is an essential constituent of Christianity; that the Christian church is an organic continuation in time and space of the life powers of the new creation in Christ Jesus; that the covenant is an order or institution of grace, spiritual and real; that the Bible was written by members of the church under plenary inspiration of the Holy Ghost; that private judgment is subordinate to the general judgment of the church as expressed particularly in the Ecumenical creeds; that the Word of God is the only form of faith and practice, and is superior to all creeds and confessions; that the individual comes to a right apprehension of the contents of the Bible through the teaching of the church; that the election of grace unto life is effectual in and by the established economy of grace; that justification is by an act of faith in the person and work of Christ; and consists both in the imputation and impartation of Christ and his righteousness; that holy baptism is the sacrament of regeneration, regeneration being the transition from the state of nature to the state of grace, as natural birth is the transition to the natural world; that regeneration succeeded by conversion and sanctification completes itself in the resurrection from the dead, inasmuch as regeneration and salvation pertain to the entire man, the body no less than the soul; that believers only hold communion with Christ in the Lord's Supper; that the ordinary, divinely ordained means of grace are adequate to all the needs of the church and the world, and if faithfully used do not fail to promote a steady and vigorous growth of the church; that although the church of Rome holds many articles of faith, and approves and perpetuates many customs which are not warranted by the Scriptures and are wrong, she is nevertheless a part of the church of Christ; and that Protestantism is a historical continuation of the Church Catholic, in a new and higher form of faith, organization, and practice."

As to its *worship* the Reformed Church was originally liturgical and though extemporaneous prayer has prevailed during the most of the present century in the regular services of the Lord's Day, there is now a strong tendency to revert to its former liturgical service. After repeated trials and the most careful revision and modifications, the successive liturgical committees of the General and the Eastern Synods have perfected an "Order of worship (including a liturgy)

for the Reformed Church" which was published in 1866, and has been adopted in most of the churches of the Eastern synod, and in some of those of the Western synods. It is gaining ground and will probably be eventually the established book of worship for the entire church.

The government of the church is strictly Presbyterian. The *consistory*, answering to the church session, is composed of the pastor, elders and deacons. Both elders and deacons are chosen by the communicant members, for a term of two, three, or four years, generally two years, and ordained by laying on of hands and installed. When the term expires, the administrative power ceases, but not the office. If reëlected, installation is repeated, but not ordination. The *classis* is the first church court above the church, and consists of the ministers and an elder from each parish within a given district. The classes are subject to the synod, which is composed of a given number of ministers and elders, chosen by four or more adjacent classes. The synods are subject to the General Synod, which consists of ministers and elders chosen by all the classes of the church. Appeals to the General Synod may be taken from any of the lower church courts. Infant baptism is faithfully and universally observed. All the children and youth are carefully catechised by the pastor once in two weeks or oftener, for a period of from three to nine months in the year. Catechumens possessing the requisite qualifications are, after examination in presence of the elders, received into the full communion of the church by the rite of confirmation. The holy communion is commonly administered twice a year, and in many of the churches four times. The communicants receive the sacred emblems by companies, standing around the altar. They observe the festivals, Christmas, Good Friday, Easter, and Whit-Sunday with much solemnity.

The statistics of the Reformed (German) Church for 1870, are as follows: one General Synod; four particular synods, viz: the Eastern, or as it is officially called, "The Synod of the Reformed Church in the United States"; "The Synod of Ohio, and adjacent States"; "The Synod of the Reformed Church in the Northwest," and the "Pittsburg Synod of the Reformed Church"; thirty one classes, 526 ministers, 1179 congregations, 217,910 members, of whom, however, only 96,728 are communicants, the

remainder being baptized children and unconfirmed members; 12,776 were baptized, 7,068 confirmed, and 3,592 received on certificate. The number of Sunday Schools reported is 1,019, and of Sunday School scholars 49,960. The amount of benevolent contributions, exclusive of those for congregational purposes, was \$76,453. There are 2 theological seminaries, one at Mercersburg, Pa., with 4 professors, and 28 students; the other at Tiffin, Ohio, with two professors, and 20 students; a mission house at Sheboygan, Wisconsin, with 3 professors, and 22 students. There are two fully organized colleges, Franklin and Marshall, at Lancaster, Pa., and Heidelberg College at Tiffin, Ohio. There are also seven classical institutions, most of them called colleges, five of them in Pa., one in North Carolina, and one in Ohio; and two female seminaries, one at Allentown, Pa., the other at Tyrconnell, Maryland. They have eleven periodicals, two quarterly (reviews), four weekly, and one semi-monthly newspapers; a monthly magazine, and three monthly Sunday School papers. There are two printing establishments, one at Philadelphia, the other at Cleveland, Ohio.

V. METHODISTS.

I. THE METHODIST EPISCOPAL CHURCH.

No denomination, in modern times, has had so rapid a growth as the Methodists. Numbering in its various divisions over two million of communicants, and having an adherent population of nearly eight millions, it seems almost incredible that the first Methodist society was organized in New York City in 1766, and that they had no existence as a distinct church until 1784, when their connection with the Church of England, and with the Protestant Episcopal Church in this country, was formally dissolved, and Thomas Coke, who had received ordination as a *Superintendent* over the Methodist societies in the United States at the hand of John Wesley; and Francis Asbury, whom he had in turn ordained for the same office, met a conference of the Methodist Societies at Baltimore, and there assumed the title and position of "Bishops of the Methodist Episcopal Church in America." This act was displeasing to Mr. Wesley, who protested against it in strong terms, and Dr. Coke,

who subsequently returned to England, never attempted to exercise Episcopal functions there. Still the act was a judicious one, and led to the more rapid development of the great denomination which sprung from such small beginnings.

The history of the Methodist Episcopal Church has been one of almost constant success. There have been, indeed, secessions in considerable numbers from its ranks, as there have from the Wesleyan Methodists of Great Britain, and some of these seceding bodies have themselves attained subsequently a large membership, but the seceders have not left the church on doctrinal grounds but on different views of church polity and discipline. Thus the "African Methodist Episcopal Church" withdrew, in 1787, on account of the prevailing prejudice against persons of color, and the "Zion African Methodist Episcopal Church," in 1820, for the same reason. The "Methodist Protestant Church" withdrew in 1830, on account of differences in regard to the episcopate and lay representation. "The Wesleyan Methodist Connection of America" seceded in 1843, in consequence of a difference of views on slavery, temperance, and church government. "The Methodist Episcopal Church, South," by far the largest of the separating bodies, came off in 1844, from dissatisfaction with the action of the general Conference of that year, requiring Rev. J. O. Andrew, D. D., one of the bishops, to desist from the exercise of his episcopal functions on account of his being a slaveholder. Since 1844 there have been several secessions of small numbers of churches which have generally become extinct or have returned to the church in a few years. The Free Methodists still remain separate, basing their withdrawal on their desire to return to the simplicity, plainness, and avoidance of display, either in dress or in the adornment of their churches, into which, as they allege, the great body of Methodists have fallen. The marvelous growth of the Methodist Episcopal Church is not due to any very great extent, like that of the Roman Catholic Church, to immigration; considerable numbers of Methodists have, indeed, come here from Great Britain, Ireland, and latterly from Germany and Sweden; but many of these have gone into other though kindred denominations. Its great increase has been due to the earnest and constant labors of its ministers, local preachers, and class leaders, to its strong

spirit of propagandism, and to its remarkable adaptation as a religious system, to pioneer life, and to the necessities of a new and only partially settled country. Its triumphs in the western states have been very great; in several of the states, and especially in Indiana and Iowa, its adherent population are said to constitute nearly or quite one-half of the people of the state. Its organization for the promotion of its objects is very efficient. It maintains in most of the large cities, and within convenient distance of each other, its denominational journals, owned by the General Conference, and advocating its measures. It has a book concern, which, after paying over one-third of its capital to the Methodist Episcopal Church, South, and dividing its surplus profits among the annual conferences for the support of enfeebled and superannuated preachers, and the widows and children of those who have died in the ministry, is still the largest publishing house in America, having a net capital of \$1,458,575, and assets to the amount of \$2,649,549 in 1870. Every itinerant minister is, by virtue of his position, a colporteur and propagandist for the sale and distribution of its publications. It has largely engaged in the Sunday School work, and through this means has greatly increased its membership. Its camp meetings, love feasts, classes, and other means of appealing to the emotional element in the nature of men, attract many to its worship and to its communion. The gradations in its ministerial service are admirably adapted to promote efficiency in its ministry. The class-leader in charge of a small section of a church, for whose spiritual growth and welfare he is in some sense responsible, may, if he develops superior gifts become an exhorter; the exhorter in turn may develop into a local preacher, or into an itinerant or circuit preacher, passing through his probation of the diaconate; the itinerant can look forward to becoming a presiding elder over the churches of a District; and from the ranks of these come the editors of the denominational journals, the managers or agents of the book concern and its branches, and the Bishops. These last have varied and arduous labors to perform, and are liable to break down from over-work. They have no dioceses like the bishops of the Roman Catholic, Episcopal, and Moravian churches, but are, in the true sense of the word, bishops,—*episcopoi*,—overseers, of the whole church. They visit and preside over the

annual conferences, assign, in council with the presiding elders, to the itinerants their charges, visit the missionary fields, superintend and manage, in connection with the other officers, the Missionary, Sunday School, and publishing institutions of the church, and constitute, either singly or together, a high court of appeal—in the *interim* of the sessions of the Quadrennial Conference—in matters of church polity and discipline, and in those appertaining to the property or finances of the church.

The college of bishops, when full, has now ten members; but since the Quadrennial Conference of 1868, three, Bishops Thomson, Kingsley, and Clark, have died, and two others are in such feeble health as to be capable of very little labor.

The following statement of the doctrines of the Methodist Episcopal Church is slightly abridged from a declaration of their doctrines, made by Rev. Abel Stevens, D. D., LL. D., the historian of Methodism, and one of their ablest writers.

The doctrines of the Methodist Episcopal Church are contained in twenty-five articles, and are as follows: 1. There is but one living and true God, everlasting, without body or parts, of infinite power, wisdom and goodness, the maker of all things visible and invisible. And in unity of this Godhead, there are three persons, of one substance, power and eternity—the Father, the Son, and the Holy Ghost. 2. The Son, who is the Word of the Father, the very and eternal God, of one substance with the Father, took man's nature in the womb of the blessed Virgin; so that two whole and perfect natures, that is to say, the Godhead and manhood, were joined together in one person, never to be divided, whereof is one Christ, very God and very man, who truly suffered, was crucified, dead and buried, to reconcile his Father to us, and to be a sacrifice, not only for original guilt but also for the actual sins of men. 3. Christ did truly rise again from the dead, and took again his body, with all things appertaining to the perfection of man's nature, wherewith he ascended to heaven, and there sitteth until he return to judge all men at the last day. 4. The Holy Ghost, proceeding from the Father and the Son, is of one substance, majesty, and glory, with the Father and the Son, very and eternal God. 5. The holy Scriptures contain all things necessary to salvation; so that whatsoever is not read therein, nor may be

proved thereby, is not required of any man, that it should be believed as an article of faith, or be thought requisite or necessary to salvation. By the Holy Scriptures we do understand those canonical books of the Old and New Testaments of whose authority was never any doubt in the church. 9. The Old Testament is not contrary to the New, for both in the Old and New Testament everlasting life is offered to mankind by Christ, who is the only mediator between God and man, being both God and man. Wherefore they are not to be heard who feign that the old fathers did look only for transitory promises. Although the law given from God by Moses, as touching ceremonies and rites, doth not bind Christians, nor ought the civil precepts thereof of necessity to be received in any commonwealth, yet notwithstanding, no Christian whatever is free from the obedience of the commandments which are called moral. 7. Original sin standeth not in the following of Adam, as the Pelagians do vainly talk, but it is the corruption of the nature of every man that is naturally engendered of the offspring of Adam, whereby man is very far gone from original righteousness, and of his own nature inclined to evil, and that continually. 8. The condition of man after the fall of Adam is such, that he cannot turn and prepare himself, by his own natural strength and works, to faith and calling upon God; wherefore we have no power to do good works, pleasant and acceptable to God, without the grace of God by Christ preventing us, that we may have a good will, and working with us when we have that good will. 9. We are accounted righteous before God, only for the merit of our Lord and Saviour Jesus Christ by faith, and not for our own works or deservings; wherefore, that we are justified by faith only, is a most wholesome doctrine and very full of comfort. 10. Although good works which are the fruits of faith, and follow after justification, cannot put away our sins, and endure the severity of God's judgments, yet are they pleasing and acceptable to God in Christ, and spring out of a true and lively faith, insomuch that by them a lively faith may be as evidently known as a tree is discerned by its fruit. 11. Voluntary works, beside, over and above God's commandments, cannot be taught without arrogance and impiety. For by them men do declare that they do not only render to God as much as they are bound to do, but they do more for his sake than of bounden

duty is required ; whereas Christ saith plainly : When ye have done all that is commanded you, say, We are unprofitable servants. 12. Not every sin willingly committed after justification is the sin against the Holy Ghost and unpardonable. Wherefore the grant of repentance is not to be denied to such as fall into sin after justification ; after we have received the Holy Ghost we may fall into sin, and by the grace of God rise again and amend ourselves. And therefore they are to be condemned who say they can no more sin as long as they live here, or deny the place of forgiveness to such as truly repent.

13. The visible Church of Christ is a congregation of faithful men, in which the pure Word of God is preached, and the sacraments duly administered according to Christ's ordinance in all those things that of necessity are requisite to the same.

14. The Romish doctrine concerning purgatory, pardon, worshipping and adoration as well of images as of relics, and also invocation of saints, is a fond thing vainly invented and grounded upon no warrant of Scripture, but repugnant to the Word of God.

15. It is a thing plainly repugnant to the Word of God, and the custom of the primitive church, to have public prayers in the church, or to administer the sacraments, in a tongue not understood by the people.

16. Sacraments ordained of Christ are not only badges or tokens of Christian men's profession, but, rather, they are certain signs of grace, and God's good will toward us, by the which he doth work invisibly in us, and doth not only quicken, but also strengthen and confirm our faith in him. There are two sacraments ordained of Christ our Lord in the gospel ; that is to say, baptism and the supper of the Lord. Those five commonly called sacraments : that is to say, confirmation, penance, orders, matrimony, and extreme unction, cannot be counted for sacraments of the gospel, being such as have partly grown out of the corrupt following of the apostles, and partly are states of life allowed in the Scriptures, but yet have not the like nature of baptism and the Lord's supper, because they have not any visible sign or ceremony ordained of God. The sacraments were not ordained of Christ to be gazed upon, or to be carried about ; but that we should duly use them. And in such only as worthily receive the same, they have a wholesome effect or operation ; but they that

receive them unworthily, purchase to themselves condemnation, as St. Paul saith, 1 Cor. xi : 29.

17. Baptism is not only a sign of profession, and mark of difference, whereby Christians are distinguished from others that are not baptized, but it is also a sign of regeneration, or the new birth. The baptism of young children is to be retained in the Church.

18. The supper of the Lord is not only a sign of the love that Christians ought to have among themselves one to the other, but rather is a sacrament of our redemption by Christ's death ; insomuch that to such as rightly, worthily, and with faith receive the same, the bread which we break is the partaking of the body of Christ, and the wine which we drink is a partaking of the blood of Christ. Transubstantiation, or the change of the substance of the bread and wine in the supper of the Lord cannot be proved by Holy Writ, but is repugnant to the plain words of Scripture, overthroweth the nature of a sacrament, and hath given occasion to many superstitions. The body of Christ is given and taken in the supper, not after a heavenly and spiritual manner ; and the means whereby the body of Christ is received and taken in the supper, is faith. The sacrament of the Lord's supper was not by Christ's ordinance reserved, carried about, lifted up, or worshipped.

19. The cup of the Lord is not to be denied to the lay people, for both the parts of the Lord's supper, by Christ's ordinance and commandment, ought to be administered to all Christians alike.

20. The offering of Christ, once made, is that perfect redemption, propitiation and satisfaction for all the sins of the whole world, both original and actual, and there is none other satisfaction for sin but that alone. Wherefore the sacrifice of masses, in the which it is commonly said that the priest doth offer Christ for the quick and the dead, to have remission of pain or guilt, is a blasphemous fable and dangerous deceit.

21. The ministers of Christ are not commanded by God's law either to vow the state of single life, or to abstain from marriage ; therefore it is lawful for them, as for all other Christians, to marry at their own discretion, as they shall judge the same to serve best to godliness.

22. It is not necessary that rites and ceremonies should in all places be the same, or exactly alike, for they have been always dif-

ferent, and may be changed according to the diversity of countries, times, and men's manners, so that nothing be ordained against God's Word. Whosoever, through his private judgment, willingly and purposely doth openly break the rites and ceremonies of the church to which he belongs which are not repugnant to the Word of God, and are ordained and approved by common authority, ought to be rebuked openly, that others may fear to do the like, as one that offendeth against the common order of the church, and woundeth the consciences of weak brethren. Every particular church may ordain, change or abolish rites and ceremonies, so that all things may be done to edification.

23. The president, the Congress, the General Assemblies, the Governor, the Councils of State, as the delegates of the people, are the rulers of the United States of America, according to the division of power made to them by the Constitution of the United States, and by the constitutions of their respective states. And the said states are a sovereign and independent nation and ought not to be subject to any foreign jurisdiction.

24. The riches and goods of Christians are not common, as touching the right, title, and possession of the same, as some do falsely boast. Notwithstanding, every man ought, of such things as he possesseth, liberally to give alms to the poor, according to his ability.

25. As we confess that vain and rash swearing is forbidden Christian men, by our Lord Jesus Christ, and James his apostle, so we judge that the Christian religion doth not prohibit, but that a man may swear when the magistrate requireth, in a cause of faith and charity, so it be done according to the prophet's teaching, 'in justice, judgment, and truth.'

It is proper to notice that as the Methodist church, founded by Wesley, was really an offshoot from the Church of England, much of the phraseology of these articles is taken from the doctrinal standards of that Church.

The legislative power of the church resides in its General Conference, which meets every four years, and to which the 72 annual conferences are subject. This General Conference has hitherto been composed of clerical delegates appointed by the several Annual Conferences. The General Conference of 1872 will, however, have a proportion of lay delegates, as do now the Annual Conferences; lay representation having been approved by

a two-thirds vote of the membership in 1869, after having agitated the church more or less for forty years, and having been the basis of one or two secessions. The General Conference governs and controls the entire Church, but is restricted by its constitution on certain points relative to its doctrines, polity, and distribution of its funds.

The Annual Conferences consist of all the traveling preachers, deacons, and presiding elders of a certain portion of country, usually comprising several districts, each under the charge of a presiding elder. There are now also admitted to these conferences delegations of the laity equal in number to the clerical representation. Each conference is presided over by a bishop. The main business transacted at these conferences is the admission and ordination of preachers; an examination of the character and official administration of the ministers belonging to the Conference; a review of the missionary, educational, and publishing interests; the apportionment of the Conference funds to infirm and superannuated preachers, and to the widows and orphans of such within the Conference; and the assignment of the ministers to their several stations and circuits for the year ensuing. In each district there is held a quarterly conference, composed of the traveling and local ministers, the exhorters, stewards, class-leaders, and superintendents of Sunday Schools. These conferences are presided over by the presiding elder of the district, and manage the details of local interests connected with the stations or circuits; serve as courts of appeal in the trial of church members; grant licenses to preach, and recommend suitable candidates for admission into the Annual Conference. The theory of the itinerancy in the Methodist church as defined by Wesley, was, that it incited the preachers to a greater measure of zeal and enthusiasm as they addressed new congregations so often; that it made the congregations or churches more attentive to the gospel and less attached to the persons of those who proclaimed it; that by this method of distributing the various classes of gifts the smaller and poorer locations were sure of receiving a share of the best gifts of which they would otherwise be deprived; and that, not being influenced by local attachments, the preachers would be better fitted to act as pioneers on the frontiers, where, otherwise, they might be less willing to go. In its practical working other advan-

tages and disadvantages have been developed; and while in a new section of country, it proves successful and has accomplished great good, it is every year becoming more distasteful to the clergymen and churches in the more densely populated portions of the country. In the cities and larger towns the circuit feature has almost entirely disappeared; the ministers are pastors of single churches, the only difference being that their stay is limited with a single church. This limit was formerly two years, but the Conference of 1868 made it three years. The more eloquent and popular preachers, however, often manage to evade this limit by securing an appointment in the same city in some different capacity, which will allow them to remain as practical pastors of the churches to which they are attached. With indolent and half educated ministers it is alleged that the itinerancy encourages idleness, as it renders any considerable study, beyond the preparation of plans of sermons for the first year or two years, unnecessary; but the Methodist ministry has but a small proportion of drones. To be eligible to full connection in an annual Conference and the office of deacon, a preacher must have traveled two years as a probationer and stood suitable examinations. He is eligible to elders' or ministers' orders after two years further service and another examination. Preachers—i. e., licensed exhorters and deacons—are not authorized to baptize or administer the Lord's Supper. Elders or ministers are ordained by the bishops, and may administer all the ordinances. Stewards are persons chosen by the Quarterly Conferences to take charge of and disburse all funds collected for the poor, the support of the ministry, and sacramental purposes. Class leaders are appointed by the ministers; their duty is to see all the members of their respective classes once a week, to learn their spiritual condition, and to receive their contributions for church purposes. Classes usually consist of twelve or more persons.

The statistics of the Methodist Episcopal Church, in 1870, were as follows: Bishops 8; travelling preachers, 9,193; local preachers, 11,404; total preachers, 21,234; members in full connection, 1,173,099; members on probation, 194,035; total lay members, 1,367,134; adult baptisms, 66,481; infant baptisms, 50,453; total baptisms, 116,934; number of churches, 13,373; number of parsonage, 4,179; value of church edifices, \$52,-

614,591; value of parsonages, \$7,293,513; number of sunday schools, 16,912; number of sunday school teachers, 189,412; number of sunday school scholars, 1,221,393; amount of benevolent collections, (aside from church expenses,) \$967,862.

II. THE METHODIST EPISCOPAL CHURCH, SOUTH. This body seceded from the "Methodist Episcopal Church" in 1844, on the following grounds: It was well known that John Wesley, the founder of Methodism, was opposed to slavery, declaring it to be "the sum of all villanies;" but the Methodist Episcopal Church having a large membership in the Southern states, had grown lax on the subject, and as for many years there was very little agitation on the question, many slaveholders became members and a considerable number ministers of the church. In 1828, one of these latter, known to be a slaveholder, was sent as the representative of the Methodist Episcopal Church to the British Wesleyan Conference. In 1840, the General Conference declared by formal resolution, that "the mere ownership of slave property, in states or territories where the laws do not admit of emancipation, and permit the liberated slave to enjoy freedom, constitutes no legal barrier to the election or ordination of ministers to the various grades of office known in the ministry of the "Methodist Episcopal Church." In 1844, however, the feeling of opposition to slavery began to be renewed in the General Conference, which was held in New York City, and proceedings not assuming judicial form, and unaccompanied with any regular impeachment, were instituted against Rev. James O. Andrew, D. D., who had been one of the bishops since 1832, a citizen of Georgia, who had married a lady possessing many slaves. These proceedings, after a protracted debate, were terminated by an act passed by a majority of the Conference requiring the bishop to desist from his functions, on account of this connection with slavery. Thereupon the representatives of thirteen of the thirty-three annual conferences of which the church was then composed, (being those embraced in the slaveholding states,) presented a declaration which set forth their solemn conviction that a continuance of the jurisdiction of the General Conference over the annual conferences thus represented, would be inconsistent with the success of the Methodist ministry in the slaveholding states. The declaration was accompanied by a for-

mal protest against the action of the majority in Bishop Andrew's case, and thus led to the adoption by the General Conference of a plan of separation, according to which there was contemplated an amicable adjustment of boundary lines, and a fair division of property, should the annual conferences in the slaveholding states find it necessary to unite in an ecclesiastical connection distinct from that of the North. The church in the South and South-west, in primary assemblies, and in quarterly and annual conferences, sustained the declaration of the delegates, and measures were immediately adopted for the assembling of a convention. This was held in May, 1845, at Louisville, Ky. Acting under the provisions of the plan of separation, and in pursuance of the formal instructions of the annual conferences, the convention dissolved the jurisdiction of the General Conference over the conferences there represented, and created a separate ecclesiastical connection under the title of "The Methodist Episcopal Church, South." The first General Conference of this organization was held at Petersburg, Va., in 1846. There was some difficulty in arranging all the details for the separation, and owing to the repudiation of the plan of separation by the General Conference of the "Methodist Episcopal Church" in 1848, the division of the property of the Book concern, *pro rata*, was only accomplished after a lawsuit in 1853. In 1845 the statistics of the Methodist Episcopal Church, South, were: 5 bishops, 13 annual conferences, 1,384 traveling preachers, 90 superannuated preachers, 2,550 local preachers, 330,710 white members, 124,811 colored members, 2,978 Indians; total 462,428. This was almost one-half of the whole membership of the Methodist Episcopal Church before the division. In 1859, there were six bishops, 24 annual preachers, 1,661 traveling preachers, 5,177 local preachers, 511,601 white members, 197,348 colored members, 4,236 Indians; total, 721,023. They continued to increase until the war, when they lost a large number of their colored members, who preferred the African organizations, and after the emancipation proclamation and the ratification of the XIVth and XVth amendments to the constitution of the United States, the basis on which they had made their separation was removed. The twenty-seven years of separate organization have however, made them indisposed for a reunion, and they

repel all overtures looking to such a measure, with considerable bitterness. Their doctrinal views are identical with those of the "Methodist Episcopal Church," and there is no difference in their polity or discipline. They have now when the board of bishops is full, nine, but Bishop Andrew having recently deceased, there are but eight now acting; there are 30 conferences, 2,646 traveling and 187 superannuated preachers, 4,753 local preachers, 540,820 white members, 19,616 colored members, (only one tenth of what they had in 1829,) 3,149 Indians; a total of 571,241.

III, and IV. The two AFRICAN METHODIST EPISCOPAL CHURCHES. The A. M. E. Church proper, and the Zion A. M. E. Church may perhaps with propriety be considered together, inasmuch as overtures are now pending for their consolidation. Both profess to be identical in their doctrinal views with the Methodist Episcopal Church, and their polity and government differ but slightly. The first has bishops, but permits lay representation to a limited extent in its General Conference from the ranks of the local preachers, and gives in its annual conferences equal privileges to the traveling and local preachers. The Zion Church has no bishops, but general superintendents in their place, elected every four years. Its General Conference is composed of all the traveling ministers in the connection, but no lay delegation is allowed. An African church seceded in 1787, under the name of the Bethel African M. E. Church, but this was subsequently absorbed into the Methodist Episcopal Church. In 1816, however, some of the more eminent of the colored Methodist ministers believing that they could be freer and more useful in a separate communion, called a convention in Philadelphia, and organized the "African Methodist Episcopal Church. Its growth has been moderate but steady until the emancipation proclamation in 1863, which has led to a great increase in its membership. It has now ten conferences, seven bishops, over 600 traveling and 1200 local preachers, 586 churches, 200,000 communicants, over 500 Sunday Schools, and more than 1200 day schools. Its adherent population is not less than 600,000. The property of the Church, in schools, colleges, and church edifices, exceeds four million dollars. It owns Wilberforce University, near Xenia, Green Co., Ohio, and four seminaries of a high class at Baltimore,

Md.; Columbus, Ohio; Alleghany, and Pittsburgh, Pa. They have a Book concern at Philadelphia, and issue a weekly and a monthly religious periodical.

The "*African Methodist Episcopal Zion Church*" seceded from the Methodist Episcopal Church in 1820, and held its first annual conference in New York, in 1821. Its secession was in consequence of some differences of opinion in regard to church government. Its growth was slow until the war, when it shared with the African M. E. Church, in the large influx of colored Methodists previously connected with the church south, and in a very large accession of new converts. Being very much straitened for means for the support of their schools and churches just after the war, they appealed to Congregationalists, to Unitarians, and to Friends for assistance, and received a considerable amount from each. They had expected to consummate a union with the African M. E. Church in 1868, but from some cause the union has been delayed, but will probably be completed in 1872. They have six general superintendents (answering to bishops, but elected for four years), 694 traveling and about 1300 local preachers, nearly 700 churches, and about 164,000 members.

V. THE EVANGELICAL ASSOCIATION, called also *Albright Methodists*, from the name of their founder, is an ecclesiastical body of great energy and activity, which took its rise in Eastern Pennsylvania, about 1790, from the labors of Rev. Jacob Albright, a German Methodist minister, who sought to promote a religious reform among the Germans of that region. It was not organized as a church till about 1800, when Mr. Albright was unanimously elected and ordained as their pastor and bishop.

Sixteen years later they had become so numerous as to organize a general conference. For the first thirty years of their existence, the Evangelical Association met with violent opposition, but since 1830 it has made rapid progress. In doctrines and theology the association is substantially one with the Methodist Episcopal Church; and its mode of worship and usages are essentially methodistic; in its church government it has a General Conference meeting every four years, and constituting its highest legislative and judicial authority. The General Conference elects its bishops for four years; they may be re-elected, but if not, hold no

higher rank or privilege than an elder after their term of service is expired. The annual conferences elect their presiding elders for the same term, and these return to the itinerancy at the expiration of their term of service. There are also quarterly conferences, in which a lay delegation is allowed, but not in the Annual or General Conferences. The statistics of the "Evangelical Association" in 1869 were as follows: Two bishops, fourteen annual conferences, 798 churches, 500 itinerant, and 377 local preachers, 65,691 members, 863 Sunday Schools, with 45,175 scholars, 153 mission stations in America, and Europe; a full complement of Missionary, Sunday School, Tract, and Charitable societies, a publishing house at Cleveland; four periodicals, a college, an orphan institution, several seminaries, 207 parsonages, and church property to the value of about \$2,000,000.

VI. THE "METHODIST PROTESTANT CHURCH," an organization which was formed of seceders from the "Methodist Episcopal Church" in 1830, the secession being based on the grounds of dissatisfaction with the Episcopate, and the refusal of lay representation. In doctrinal views, they accept the standards of the Methodist Episcopal Church, but have no bishops. Their general conference, which meets once in seven years, and is composed of one ministerial and one lay delegate for every thousand communicants, is the governing body; and in the *interim* of its sessions, its president and the officers of the different committees and societies created by it, exercise administrative authority to a limited extent. The annual conferences, composed of ministers only, elect their own presidents, and possess authority within their own bounds. Its quarterly conferences, exhorters, class-leaders, stewards, etc., are copied after the Methodist Episcopal pattern. The church had in 1870 423 itinerant, and about 860 local preachers, nearly 900 churches, and about 72,000 communicants. It does not seem to be growing, for its statistics in 1858 were considerably larger than these figures. It has seven collegiate institutions, three of them for females; two other literary institutions; small book concerns at Baltimore, Md., and Springfield, Ohio, and four periodicals.

VII. "THE METHODIST CHURCH," is another branch of the Methodist family, of which we only know that it reported in 1870 624 preachers, and 49,030 members. Its

doctrines are probably not different from those of the other Methodist bodies; it has, we believe, no bishops.

VIII. "THE WESLEYAN METHODIST CONNECTION OF AMERICA," was organized in 1843, and composed mainly of seceders from the "Methodist Episcopal Church." The seceders were strongly opposed to slavery, and desirous of having the church purged from it; they were also ardent temperance men, and hostile to all traffic in intoxicating liquors as a beverage. The "Methodist Episcopal Church," which subsequently took advanced grounds on both these subjects, was not at this time willing to do so, and disciplined its members who urged it. The consequence was the organization of the Wesleyan Methodist Connection of America, at Utica, May 31, 1843. Their doctrines are the same with those of the Methodist Episcopal Church, except two rules of morality, one excluding from church membership and Christian fellowship all who buy or sell men, women, or children, with intent to enslave, or hold them as slaves, or claim that it is right to do so; and the other, excluding from membership or fellowship all who manufacture, buy, sell, or use intoxicating liquors, or in any way, intentionally and knowingly, aid others so to do, except for mechanical, chemical, or medicinal purposes. In its church government, the Wesleyan Connection is democratic, holding to complete ministerial equality and the power of each church to act for itself. They have an equal representation of ministers and laymen in their general conference, and these are elected by the annual conferences which are composed of all the ministers and an equal number of laymen in their several geographical bounds. They do not seem to have increased since the war, numbering only 250 ministers, and about 20,000 communicants in 1870, against 300 ministers, and 20,000 members in 1858. They have two collegiate institutions, one at St. Louis, Jackson Co., Mich., the other—the Illinois Institute—at Wheaton, Du Page Co., Illinois. They have also one newspaper, "*The True Wesleyan*."

IX. THE FREE METHODISTS are the latest seceders from the Methodist Episcopal Church. They profess to have left it on the ground of its increasing formalism and conformity to worldly customs and fashions in dress, and in the construction, adornment, and music of the churches. They advocate

a return to the early plainness of costume, the avoidance of all ornaments and jewelry, and the simplicity and bareness of architecture which characterized the early Methodists and their houses of worship. With this they also desire to restore the ancient zeal, fervor, and earnestness of the immediate followers of Wesley and his successors. They number about one hundred ministers, and perhaps 7,000 communicants, and have a newspaper — *The Free Methodist* — edited with a good deal of zeal and spirit.

X. THE PRIMITIVE METHODIST CHURCH is a branch of the church of the same name in Great Britain, but has not attained to any very considerable numbers here; its members being mostly immigrants who had been connected with it before migrating to this country. In England it originated in 1807, in a secession from the Wesleyans, on grounds of polity; the seceders desiring to maintain camp meetings, house to house visitation and religious outdoor services, and the employment of female preachers to some extent, with a view to reach the lower and more depraved classes, and the Wesleyans declining to sanction any such movements. The Primitive Methodists, like the Free Methodists, are very zealous and earnest. Their doctrines do not differ from those of Wesley; but in church government they are democratic, having no bishops, and in their conferences, have two lay delegates for every minister. They number in the United States about 20 itinerant, and 35 or 40 local preachers, nearly 40 churches, and a membership of about 2,200.

XI. THE WELSH CALVINISTIC METHODISTS are not a numerous body in the United States, and are only Methodists in their church polity and government, their doctrinal views being more Calvinistic than Arminian, and assimilating in this respect to the Congregationalists, or to the Calvinistic portion of the clergy of the Church of England. They were in England an outgrowth of the labors of Whitfield and his successors. Indirectly, they were also a result of the organization of Lady Huntingdon's Connexion, with which their doctrinal views fully corresponded. In the United States they are found principally among the Welsh, and some efforts to organize other churches, as Congregational Methodists, i. e., with Calvinistic doctrines, and Methodist polity and government, have proved failures, the churches either becoming wholly Congrega-

tional, or joining some of the Methodist sects. The Welsh Calvinistic Methodists number probably not more than 3,000 communicants.

XII. UNITED BRETHREN IN CHRIST, OR GERMAN METHODISTS. This denomination, though not properly Methodists in name, are yet so far in unison with them in doctrines and polity, that they come more appropriately under the classification of *Methodists* than any other. The "United Brethren in Christ" owe their origin to the labors of Philip James Otterbein, a native of Dillenburg, Germany, born June 4, 1726, and ordained to the ministry of the German Reformed Church, at Herborn, Germany, in 1749. He was sent to America as a missionary by the Synod of Holland in 1752, and settled at Lancaster, Pennsylvania. Not long after his arrival he became convinced that he was a stranger to vital godliness, and ere long experienced, as he believed, a change of heart. He very soon began to manifest his zeal by instituting meetings during the week for prayer and religious conference, and finding that the region round about was in a condition of great spiritual destitution he made long preaching tours, and held what were called "great meetings" in barns and groves throughout that region, his labors being attended with great success. Persons who had experienced a change of heart, whatever their ecclesiastical relations, were invited to take a part in these meetings, and among those who accepted the invitation was Martin Boehm, a Mennonite preacher of great zeal and earnestness. At the close of one of Boehm's most effective sermons Otterbein rose, and embracing him exclaimed: "We are brethren!" The name of United Brethren in Christ was adopted by their followers from this time. Otterbein and Boehm labored together for more than fifty years; and what at first seemed a revival in the different churches gradually became agglomerated into a distinct denomination, with its hundreds of preachers, called for the most part from the working classes, and exercising their gifts at first as lay preachers and subsequently licensed and ordained by the leaders or by some of those whom they had set apart for the ministry. At Otterbein's death, in 1813, the "Brethren" were already a large and influential body; they have since increased with considerable rapidity, and adopting the Methodist polity of quarterly, annual, and general Conferences,

itinerants, bishops, and presiding elders, they have come to be a well organized and efficient body. Their first organization as distinct churches dates, we believe, from 1774.

In their theological views they are Arminians, agreeing very nearly with the Wesleyan Methodists in England, and the Methodist Episcopal Church in the United States. On a few points only are they peculiar. In common with most of the evangelical churches they require evidence of a change of heart as indispensable to membership, but they prohibit membership to slaveholders, to adhering members of any secret society or organization, and to those who manufacture, sell, or drink intoxicating liquors. Baptism is administered either by pouring, sprinkling, or immersion, as the candidate may prefer; infants are baptized when desired. Open communion is practised and the ordinance of foot-washing, as observed by several of the minor German sects, is optional, some of the churches observing it, while others do not. For the first fifty years of their history their ministers confined their labors almost exclusively to the German-speaking population, but now they have as many English as German churches. Their statistics in 1870 were as follows: thirty-eight annual conferences, one general conference, four bishops who are elected for four years, and may be re-elected, about 900 itinerant and over 800 local preachers; 3,924 organized societies; 1,473 church edifices, with 483,099 settings; 118,055 members; 2,420 Sunday schools, with 16,417 teachers and 112,425 scholars; collections for church purposes, 580,288; value of church property, \$2,506,600. They have at Dayton, Ohio, an extensive publishing establishment which issues numerous books, and beside an annual almanac or year book, five periodicals; a German and an English weekly religious newspaper, a monthly German, and a semi-monthly English, child's paper, and a missionary periodical in English, semi-monthly. They have six colleges; Otterbein University at Westville, Ohio; Hartsville University, at Hartsville, Ind.; Westfield College, at Westfield, Ill.; Lebanon Valley College, Annville, Pa.; Lane University, Lecompton, Kan.; and Western College, Western Iowa. Sublimity College, Oregon, has passed out of their hands for want of adequate funds for buildings and endowment. They have also three or four female seminaries and collegiate schools.

V. CONGREGATIONALISTS.

In its broadest sense the name CONGREGATIONALIST is applicable to all the denominations which hold to the independence of each church and to the democratic form of church government and polity. In this sense the Regular Baptists, and, indeed, almost all the denominations which we have ranged under the general head of "Baptists" as well as the Friends, the Unitarians, and the Universalists, are as truly Congregationalists as the churches distinctively known by that name. In common usage, however, the name is applied almost exclusively to those churches which are Augustinian and Calvinistic in doctrine, Trinitarian in belief, and Pædo-baptist in practice; and who holding these views unite with them a democratic church polity, the independence of each church, and a fellowship and inter-communion with all churches holding like views.

While there were undoubtedly isolated congregations in England in the sixteenth century, which maintained substantially congregational views and organization, Rev. John Robinson, first of Scrooby, Nottinghamshire, England, and afterwards of Leyden, Holland, is generally regarded as the father of Congregationalism. His church was organized in 1606, and removed almost bodily to Holland in 1608 in consequence of persecution. After a pastorate of about twelve years in Amsterdam and Leyden, a majority of the church, under Elder William Brewster, determined to emigrate to America, and after many perils and troubles, landed at Plymouth, Massachusetts, Dec. 21, 1620, having previously organized as an independent church and as a civil community. Others followed soon after, and Robinson himself intended to come, but died just as he was about to sail. The colonists of Massachusetts Bay were at first Non-conformists, but they presently adopted the Congregational Order. In Massachusetts and Connecticut, as well as in the then province of Maine, and the colonies of New Hampshire and Vermont, at a later period, the Congregationalists were the dominant sect or denomination, and in the two former colonies and subsequent states, retained a somewhat peculiar connection with the state, which, though modified, was not wholly abrogated in Connecticut till 1818, and in Massachusetts in 1833. Every householder, or person liable to pay taxes, was regarded as primarily subject to a tax for the support of religious worship in

the Congregational church, or, as it was usually called "the standing order;" and this liability, if he possessed property, could only be avoided by his "signing off," or avowing himself a tax-payer for the support of some other of the tolerated denominations. At first even this was not permitted, except in the case of members of the Church of England, but gradually more liberal views prevailed. This compulsory taxation was abrogated in Connecticut by the constitution of 1818, and in Massachusetts by a constitutional amendment, in 1833. In 1770, the number of communicants in the Congregational churches of the thirteen colonies was about 112,000, almost all of whom were in New England, though two or three churches were planted about that time in Georgia and South Carolina. In 1801, a Plan of Union was agreed upon between the Presbyterian Church and the General Association (of Congregationalists) of Connecticut, which, at that time was an active missionary body. This plan of Union provided that in any new place where there were members of Congregational and Presbyterian churches, to avoid the establishment of weak and feeble churches, the members of the two denominations should unite to form a church which should be either Presbyterian or Congregational as the majority of its members might decide, and if Congregational, that it should still have a qualified right of representation in the Presbytery. Under this arrangement, which continued in full force till 1837, and was not completely abrogated till 1852, the greater part of the advantages enured to the Presbyterians, very few Congregational churches being organized in the middle and western states, and a considerable portion even of these, under the arrangement for representation in the Presbyteries, gradually becoming Presbyterian. It resulted from this liberality, that while there were nearly a hundred thousand former members of Congregational churches who had contributed to swell the numbers of the Presbyterian and Reformed churches, the actual number of communicants in Congregational churches in the entire country, in 1850, at the expiration of eighty years from 1770, did not much exceed 200,000. There had been in this interval, it is true, a very considerable loss in Massachusetts (mostly from 1810 to 1830) by the falling away of the Unitarians. This had probably caused a diminution of fifteen to eighteen thousand members. But soon

after 1840 there was a spirit of greater activity and aggressive action roused in the Congregational churches. This found expression, in 1852, in the National Congregational Convention, a sort of General Synod or Council, which met at Albany. This Convention initiated measures for greater denominational missionary activity, advised the raising of a fund of \$100,000 to aid in the erection of Congregational churches in the new states and territories, and largely increased efforts for the extension of Congregationalism as a denominational organization. As a result of this Convention and the spirit which prompted it, the growth of the denomination has been rapid and healthy in the western states and territories, and during the recent war and since, it has proved itself possessed of great energy and ability in propagating Christianity in its simpler forms throughout the country. The Presbyterians and the Reformed (Dutch) Church had formerly been associated with the Congregationalists in both Home and Foreign Missionary enterprises, but the Old School branch of the Presbyterians withdrew from both about 1837; the Reformed, in 1857; and the New School branch of the Presbyterians partially from the Home Missionary Society in 1853 or 1854, and wholly in 1865, and from the American Missionary Association about the same time; and at the reunion of the two branches of the Presbyterian church in 1870, the New School members withdrew also from the American Board of Commissioners of Foreign Missions, taking with them three or four of the Missions. The Congregationalists have, however, manfully taken the entire burden on their own shoulders, and are maintaining these organizations in their full vigor. In 1865, another General Synod, or National Council, was held in Boston, which has resulted in a further development of denominational as well as of Christian activity. This Council adopted a *Declaration of Faith*, the first authoritative exposition of their views of doctrine and polity, which had had the full sanction of the denomination: though earlier General Synods—those of Cambridge in 1637 and 1646—and the partial one of Saybrook in 1708, had adopted in general terms, and for substance of doctrine, the Westminster and Savoy Confessions of Faith, and the “Cambridge Platform,” and the “Saybrook Platform” of polity and discipline.

This “*Declaration of Faith*,” adopted in

1865, on Burial Hill, Plymouth, Mass., is as follows:

“Standing by the rock where the Pilgrims set foot upon these shores, upon the spot where they worshipped God, and among the graves of the early generations, we, elders and messengers of the Congregational churches of the United States in National Council assembled, like them acknowledging no rule of faith but the Word of God, do now declare our adherence to the faith and order of the apostolic and primitive churches held by our fathers, and substantially as embodied in the confessions and platforms which our synods of 1648 and 1680 set forth or re-affirmed. We declare that the experience of the nearly two and a half centuries which have elapsed since the memorable day when our sires founded here a Christian commonwealth, with all the development of new forms of error since their times, has only deepened our confidence in the faith and polity of those fathers. We bless God for the inheritance of these doctrines. We invoke the help of the Divine Redeemer, that through the presence of the promised Comforter he will enable us to transmit them in purity to our children.

“In the times that are before us as a nation, times at once of duty and danger, we rest all our hope in the Gospel of the Son of God. It was the grand peculiarity of our Puritan fathers, that they held this Gospel, not merely as the ground of their personal salvation, but as declaring the worth of man by the incarnation and sacrifice of the Son of God; and therefore applied its principles to elevate society, to regulate education, to civilize humanity, to purify law, to reform the church and the state, and to assert and defend liberty; in short, to mould and redeem, by its all-transforming energy, everything which belongs to man in his individual and social relations.

“It was the faith of our fathers that gave us this free land in which we dwell. It is by this faith only that we can transmit to our children a free and happy, because a Christian, commonwealth.

“We hold it to be a distinctive excellence of our Congregational system, that it exalts that which is more, above that which is less important, and by the simplicity of its organization facilities, in communities where the population is limited, the union of all true believers in one Christian church; and that the division of such communities into several weak and jealous societies, holding the same

common faith, is a sin against the unity of the body of Christ, and at once the shame and scandal of Christendom.

"We rejoice that through the influence of our free system of apostolic order, we can hold fellowship with all who acknowledge Christ and act efficiently in the work of restoring unity to the divided church, and bringing back harmony and peace among all who love our Lord Jesus Christ in sincerity.

"Thus recognizing the unity of the Church of Christ in the world, and knowing that we are but one branch of Christ's people, while adhering to our peculiar faith and order, we extend to all believers the hand of Christian fellowship upon the basis of those great fundamental truths in which all Christians should agree. With them we confess our faith in God, the Father, the Son, and the Holy Ghost, the only living and true God; in Jesus Christ, the incarnate Word, who is exalted to be our Redeemer and King; and in the Holy Comforter, who is present in the Church to regenerate and sanctify the soul.

"With the whole Church, we confess the common sinfulness and ruin of our race, and acknowledge that it is only through the work accomplished by the life and expiatory death of Christ, that believers in him are justified before God, receive the remission of sins, and through the presence and grace of the Holy Comforter, are delivered from the power of sin, and perfected in holiness.

"We believe, also, in the organized and visible Church, in the ministry of the Word, in the sacraments of Baptism and the Lord's Supper, in the resurrection of the body, and in the final judgment, the issues of which are eternal life, and everlasting punishment.

"We receive these truths on the testimony of God, given through prophets and apostles, and in the life, the miracles, the death, the resurrection of His Son, our Divine Redeemer,—a testimony preserved for the Church in the Scriptures of the Old and New Testaments, which were composed by holy men as they were moved by the Holy Ghost.

"Affirming now our belief that those who thus hold 'one faith, one Lord, one baptism,' together constitute the one Catholic Church, the several households of which, though called by different names, are the one body of Christ, and that these members of His body are sacredly bound to keep 'the unity of the Spirit in the bonds of peace,' we declare that we will coöperate with all who hold these

truths. With them we will carry the Gospel into every part of this land, and with them we will go into all the world and 'preach the Gospel to every creature.' May He to whom 'all power is given in Heaven and earth,' fulfil the promise which is all our hope: 'Lo, I am with you alway, even to the end of the world.' Amen."

As we have already said, the Congregationalists are Pædo-baptists, though infant baptism is far from being as universal with them as it was formerly. Baptized children are not admitted to full membership in the church, except on evidence of conversion, and a profession of their faith in Christ. The usual mode of baptism is by affusion or sprinkling, but most of their clergymen administer the ordinance by pouring, or by immersion, if the candidate has a distinct preference for either of those modes. They recognize the minister, elder, presbyter, or bishop (holding these titles as synonymous) as the only clerical officer of the church. The deacons, though set apart by ordination in some of the churches, have no more authority than any other layman. An executive, or prudential, or standing committee (they are called by these different names in different churches) assist the pastor in examining candidates for membership, and those recommended by them are propounded for membership, and if no exception is taken they are received after a delay of one or two weeks. Pastors are called by the churches which desire their services, and usually also by the ecclesiastical society, the corporation known in law as holding and controlling the church property, and which is usually composed of members of the church; but the pastor is not considered as in the fellowship of the Congregational churches adjacent, until he has been examined, and ordained or installed by a council composed of the pastors and lay delegates from other churches. A church may be organized by a band of believers coming together voluntarily and agreeing to form themselves into a church, but in order to its recognition as in fellowship with other churches of the same faith, a council must be called to examine into the need of it, its material, and its doctrines.

Candidates for the ministry are examined carefully in regard to their religious experience, doctrinal views, knowledge of Scriptural learning, and general fitness. Usually a collegiate education, or its equivalent, is required. The church is practically the

highest authority in regard to matters of discipline, but in important cases at the request of the party under discipline, a mutual, or if the church refuse, an *ex-parte* council of pastors and delegates of neighboring churches, is called, which investigates the case, and communicates the "results" at which it arrives, to the parties. These councils possess, however, only advisory powers, but their advice is usually accepted.

The Congregationalists have now churches in 37 of the states and territories, and while their largest membership is still in New England, in most of the states of that section it being the largest denomination, yet they have very considerable strength in Illinois, Michigan, Iowa, Wisconsin, Ohio, and New York.

Their statistics at the close of 1870, were: Churches 3,121; Ministers 3,194; Members 306,518; teachers and pupils in Sabbath Schools 361,465; gain over the previous year, churches 78; members 6,156; members of Sabbath Schools 4,963; ministers exclusive of foreign missionaries 30. Of the ministers, 928 are reported as not engaged in pastoral work. Of their contributions to benevolent purposes, it is impossible to speak definitely, as they are in the Bible Society, the American Tract Societies, and have been, until the present year, in the American Board, and the American and Foreign Christian Union, associated with other denominations. Their contributions to the several benevolent objects, aside from contributions for home church purposes, and from endowments made to collegiate or Theological institutions or asylums, &c., must have exceeded \$2,000,000. For home purposes they were not less than \$4,500,000 more.

The denomination have six theological seminaries, which had, in 1870, twenty-eight professors, and 305 students. These were located at Bangor, Maine; Andover, Mass.; Hartford, and New Haven, Conn.; Oberlin, Ohio; and Chicago, Ill. There were also eighteen colleges, having an aggregate of more than 5,000 students, in which, though not exclusively denominational, the Congregationalists have a controlling influence. Aside from these, there are eighteen incorporated and endowed academies, and female seminaries, besides numerous private seminaries and academies, directly under the control of the denomination.

There are seventeen periodicals, weekly, semi-monthly, monthly, and quarterly, which

are recognized as distinctively Congregationalist.

The only other denominations not already noticed, which are Congregational in their polity, but not in their doctrine, are the UNITARIANS, and UNIVERSALISTS, both of which will be treated under their respective titles.

VI. THE PROTESTANT EPISCOPAL CHURCH IN THE UNITED STATES, sometimes called by a section of its members, the ANGLICAN or ANGLO-CATHOLIC CHURCH.

This denomination was, in its origin in the United States, a part of the Church of England, and its clergymen received ordination at the hands of the Bishop of London until 1784, and indeed most of them until 1788 or 1789. Virginia had established the Church of England as the religion of the colony, as early as 1650, and Maryland, though settled at first by Roman Catholics, had done the same thing in 1692. Attempts were made by some of the colonial governors of New York to make it the established religion of that colony, but without great success. The adherents to the Church of England were, however, considerably numerous in New York, Pennsylvania, Maryland, and Virginia, before the Revolutionary War, and they had ten or twelve churches in Connecticut. In the other colonies they were very few. Efforts had been made to obtain one or two bishops for these colonies almost from the beginning of the eighteenth century, but they had failed, both from the unfriendly feeling of the English government, and from the jealousy against Episcopacy in the colonies, growing out of the political complications in which the bishops in Great Britain were involved. In November, 1784, Rev. Samuel Seabury, D. D., a Connecticut clergyman, having sought ordination as a bishop of the diocese of Connecticut, from the English bishops, and being refused on account of some political obstacles, went to Scotland and was consecrated at Aberdeen, by three of the bishops of the Scottish Episcopal Church. In 1787, William White, D. D., was consecrated Bishop of the Diocese of Pennsylvania, and Samuel Provost, D. D., Bishop of the diocese of New York, by the Archbishop of Canterbury, at Lambeth Palace chapel, and three and a half years later, James Madison, D. D., of Virginia, was consecrated at the same place as Bishop of the

Diocese of Virginia. These four bishops were all who received consecration in Great Britain and through them, according to the views of the High Church party, the Apostolical succession in the bishops and clergy was transmitted to the American church. The growth of the Protestant Episcopal Church has not been rapid, but has been to a great extent in the large cities and principal towns of the country, and only to a limited extent in the rural parishes. The beautiful liturgy and imposing ritual of the Episcopal Church, as well as the wealth and fashion of some of its adherents, and the gorgeous architecture of many of its church edifices, have drawn to its worship, in the great cities, large numbers of the fashionable and worldly, attracted by externals; but within its communion are also very many earnest and devout souls, to whom its order and ceremonies are exceedingly precious. Within its communion, as in that of the Church of England, there are three distinct parties, often more diverse in their views than either is from other denominations; yet all professing to hold by the same standards, to which, however, they give very different interpretations. The doctrinal standards of the Protestant Episcopal Church, are the Apostles' and Nicene creeds (for though many of them agree to the Athanasian Creed, it is not an acknowledged standard as it is with the Church of England); the XXXIX articles of the Church of England, except the XXIst and XXXVIIIth, and a slight modification of the VIIIth, XXVth, and XXVIth; the Book of Common Prayer, as revised by the American Bishops, and the Homilies in general. The *High Church party* (with which are generally included the Ritualists, and the Puseyites or Tractarians, though both go farther than most of the High Churchmen) take their stand upon the Episcopal Constitution, the theory of Apostolical succession, and more than all on the Book of Common Prayer, and give to these standards a signification which seems strained and mystical, and insist that they are to be interpreted with due reference to the practices and customs of the early Catholic Church. They have brought into the worship of the Protestant Episcopal Church many customs, ceremonies, and practices which are certainly borrowed from the Roman Catholic church, and a considerable number of them have demonstrated this, by taking still another step and going entirely over to the Church

of Rome. This branch of the Protestant Episcopal Church, or rather this party in it, have been extremely intolerant of other religious denominations, denouncing them as dissenters, and as having no part in the covenant, assuming to themselves even a higher position than that claimed by the Roman Catholic Church. At the same time, it is due to them to say, that in active Christian work within the bounds of their own denomination, exclusively, they are not surpassed by any other denomination in the country, according to their numbers. Their intolerance and bigotry has possibly led another division of the church, the *Low Church party*, to an extreme in the other direction. The Low Church take their position on the "Thirty nine articles" which are Calvinistic on the doctrine of election, and Zuinglian in the doctrine of the Sacraments. They are Evangelical in their doctrinal views, and interpret their standards as permitting, and indeed enjoining, on them free and hearty Christian intercourse with other Evangelical denominations. They interchange pulpits with them, and engage very cordially in associations for the promotion of objects of general Christian benevolence. That in these measures they occasionally overstep the strict letter of their standards, may be, and probably is, due to a too great narrowness in the standards themselves.

The third, or "*Broad Church party*," have not so much inclination either to a narrow and straight-laced interpretation of their standards, and a bigotry toward other denominations, or to a thoroughly evangelical coöperation with them, as to loose and broad views in regard to the inspiration and authenticity of the Scriptures, and a strongly rationalistic tendency. This party, which we believe includes in this country none of the bishops, subscribe to the XXXIX articles, with many mental reservations, and some of them boldly avow that Protestantism is a failure.

The condition of affairs in the Protestant Episcopal Church, resulting from these great differences of sentiment and opinion, have more than once threatened that church with division, if not dissolution, and at the present time seem more likely to rend it than ever. A few churches have already withdrawn from its communion, and others of the Low Church party are only awaiting the result of a last appeal to the Triennial General Convention to decide upon their future course.

Under the article on the METHODIST EPIS-

COPAL CHURCH, we have given twenty-five of the thirty-seven articles retained by the Protestant Episcopal Church, in every case but one using their exact language. (This one is in regard to the "Rulers of the United States of America," and, of course, differs from the English article on the subject of rulers.) It is hardly necessary for us to repeat these, and the others which are omitted by the Methodist Church, but retained by the Protestant Episcopal; they relate, as will appear from their titles, rather to abstract topics and beliefs, and to matters of polity, than to the fundamental doctrines of the Church. The titles of the omitted articles are: "Art. 3. Of the going down of Christ into Hell." "Art. 13. Of works before justification." "Art. 15. Of Christ alone without sin." "Art. 17. Of Predestination and Election" (the most decidedly Calvinistic article in the whole XXXIX, and singularly at variance with some other portions of the standard). "Art. 18. Of obtaining salvation only by the name of Christ." "Art. 20. Of the authority of the Church." "Art. 23. Of ministering in the congregation." "Art. 26. Of the unworthiness of the ministers, which hinders not the effect of the sacrament." "Art. 29. Of the wicked which eat not the body of Christ in the use of the Lord's Supper." "Art. 33. Of excommunicated persons; how they are to be avoided." "Art. 34. Of the traditions of the Church." "Art. 36. Of the consecration of Bishops and ministers." This last is modified to adapt it to the peculiarities of the American church. To the doctrinal discrepancies growing out of the interpretations of the XXXIX articles, and the Book of Common Prayer, which it is very difficult to make accord fully with each other, is due much of the division in the Protestant Episcopal Church.

In matters of polity, the Episcopal Church recognizes three orders of clergy: Bishops, priests, and deacons. The Bishops, like those of the Roman Catholic, Greek, Armenian, and some other churches, are *diocesan*, i. e., have charge of the churches of a particular territory or diocese, in distinction from those of the Methodist Church, which are general and itinerant, and those of a part of the Lutheran churches, which are more nearly Presbyterian, the Bishop being of no higher authority nor dignity than the other clergy, but simply performing duties of a different class. Such is substantially also the theory of Episcopacy in the Moravian church.

The High Church theory is, that the Bishops are the successors of the Apostles, that the consecration has come to them in regular order through the hands of a succession of holy men, the bishops of the Roman Church before the Reformation, and that they are thus Bishops by direct transmission from Jesus Christ and his Apostles, and so by divine right. They regard them as superior to priests and deacons. The Low Church party deny all this, and reject the theory of the "exclusive validity of Episcopal orders." The priests, called also in the United States, generally rectors, and, where not in full charge of a parish, assistant ministers, have received at the hands of the bishop the second ordination which confers upon them the power of administering the sacraments. The third, or lowest grade of the ministry, is the deacon, which in this church is usually but temporary, the candidate when invested with this office, is allowed to baptize, to read in the church, and to assist in the Eucharist, but only in the administration of the wine. His office is wholly distinct from that of the deacon in Presbyterian, Congregational, or Baptist churches, being more analogous to that of the licentiate in those churches. It is usually a mere preliminary or stepping stone to the reception of priests' orders, and both ordinations are, in some instances, effected in the same day. The temporalities of the Episcopal churches are administered by the concurrence of the rector and the vestry, composed of wardens and vestrymen elected by the members of the parish. The Episcopal Church usually administers baptism by making the sign of the cross on the forehead of the person baptized, requiring a profession of faith (in the case of infants, this is made for them by their sponsors, or god-father and god-mother). Immersion either in the case of children or adults, though formerly practised by the Church of England, is not now considered necessary. The formula for the baptism of infants, in the prayer book, contains the words, "since this child is now *re-generate*," and a very exciting discussion has sprung up in regard to these words, some clergymen contending that they inculcated the doctrine of baptismal regeneration, and refusing to use them on this account. At the Triennial General Convention, held in Baltimore, in Oct. 1871, though no general canon defining this passage was passed, yet nearly all the bishops signed a paper giving it as their private opinion that the term as

thus used was not intended to imply that doctrine.

The statistics of the Protestant Episcopal Church in 1870 were as follows: Dioceses 39; Missionary do. 11; Bishops 39; Assistant do. 5; Missionary do. 8; Priests and Deacons 2,710; Parishes 2,512; communicants, not fully reported, but believed to be not quite 220,000; Baptisms of infants, 20,749; of adults, 5,030; not specified, 3,760; Confirmations 20,793; Sunday School Teachers 18,664; Scholars 185,979; Contributions (incomplete), \$4,205,029.

The Episcopal Church has been very active in the promotion of educational institutions. It has 14 theological seminaries, with 57 professors and 366 students; 15 colleges, with 1,380 students, and 20 academies and diocesan schools, under the control of its Bishops. It has 22 periodicals, weekly, semi-weekly, monthly, and quarterly, devoted to its interests, and within a few years past has manifested a zeal and energy in propagating its views, and establishing churches, especially in the new states and territories, which contrasts very favorably with the apathy of its early history.

VII. THE EVANGELICAL LUTHERAN CHURCH.

The Lutheran Church in the United States, is one, in the sense of holding with greater or less tenacity to the same standards or Confessions of Faith; but it has some elements of discord in it, mainly in matters of minor importance, which have led to violent controversies, and to so great bitterness between some of its synods that they not only refuse fellowship and communion with each other, but have excommunicated each other. These discordant elements are, however, confined for the most part to the smaller independent synods, and do not so much affect the larger bodies. The denomination is growing in the United States with great rapidity, especially in the West, and mainly, though not exclusively, by immigration, the very large numbers of Germans, Swedes, Norwegians, and Danes, arriving here every year being, a majority of them—nominally at least—attached to the Lutheran faith. The first Lutherans came to Pennsylvania between 1680 and 1700, attracted by the offers of William Penn. In 1710, about 3,000 German Lutherans who had taken refuge in England from the persecu-

tions of the Romanists, were sent over to Pennsylvania by the British government. In 1727, another large colony came over from the Palatinate, Wurtemberg, Darmstadt, and other parts of Germany. For nearly twenty years, these poor people had no ministers of their own; but in 1748, Dr. Henry Melchior Muhlenburg, a missionary of the Halle Orphan House, brought up under the training of Francke and Spencer, came to Pennsylvania and labored most zealously for half a century among them, organizing churches, consistories, and synods, and being entitled to be considered the father of the German Lutheran Church in America. At the time he arrived here, there were only eleven Lutheran ministers in the Colonies. Three years later there were forty, and a Lutheran population of about 60,000. No one of the Protestant churches suffered more severely by the Revolutionary War than did the Lutheran, and they were long in recovering from the depression thus caused. Many of their churches were abandoned, and it seemed for years as if their religious vitality had departed. Their churches were scattered, and belonged to distant and separate synods, having little communication with each other and no common band of union, and being in many instances composed of Lutherans from different countries of Europe, they were inclined to look upon each other with jealousy. This was, to some extent, remedied, and a better state of affairs inaugurated by the formation of the General Synod of the Lutheran Church, in 1820. From that time, a steady and constantly increasing tide of emigration began to flow in to the country, and much of the German and Scandinavian part of it was composed of Lutherans, or those who had been brought up under Lutheran influences. Many of these, coming from countries where Lutheranism was the religion of the state, and the sovereign the head of the church, had been accustomed to great laxity in religious matters. At the suitable age they were confirmed and became members of the church, however irregular their mode of life, and no evidence of conversion was required for membership. These lax views, and a general tendency to rationalism, they desired to graft upon the American Lutheran Church, and in some of the newer synods their views prevailed. These synods refused, on these and other accounts, to join the General Synod. There were other grounds of difference, also, relating to

the standards of the church, the clerical office, the adoption or rejection of symbolical rites and ceremonies, and a liturgical service, and the making use of what have been known as revival measures. These differences were increased by the emigration of a considerable number of the "Old Lutheran" party to the United States in 1837 and 1838. The Lutherans all agree in receiving the "Augsburg Confession," (drawn up by Melancthon, and sanctioned by Luther, in 1530) as their principal standard of doctrine; though the New Lutherans regard even this as only an expression, "in a manner substantially correct," of the cardinal doctrines of the Bible, which they regard as the only infallible rule of faith and practice. The Old Lutherans on the contrary, while avowing the Bible as the ultimate rule of faith and practice, adhere very strenuously to the entire "Book of Concord," so called, as the standard of their doctrinal beliefs. This Book of Concord contains the three creeds, viz., the Apostles', Athanasian, and Nicene Creeds, the Augsburg Confession of 1530, and the Apology of the Confession (written by Melancthon, 1540), the Schmalkald Articles (drawn up by Luther in 1537), and the two Catechisms of Luther (prepared before 1530). The Old Lutherans are inclined, to some extent, to retain also, those rites, ceremonies, and observances, which Melancthon regarded as things indifferent, such as the wearing of clerical vestments, exorcism, private confessions, lax views of the Sabbath, and the old Lutheran doctrine of baptism, in its relation to regeneration and the Lord's Supper.

"The book of Concord," and, indeed, the "Augsburg Confession," and its "Apology," are too long to be inserted in this brief history of denominations, but we give below a summary of their principal doctrines, as stated by an eminent Lutheran clergyman.* "The fundamental doctrine of the Lutheran Church is that we are justified before God, not through any merit of our own, but by his tender mercy, through faith in his Son. The depravity of man is total in its extent, and his will has no positive ability in the work of salvation, but has the negative ability of ceasing its resistance. Jesus Christ offered a proper and vicarious sacrifice. Faith in Christ presupposes a true penitence. The renewed man co-works with the Spirit of

God. Sanctification is progressive and never reaches absolute perfection in this life. The Holy Spirit works through the Word and the Sacraments, which alone, in the proper sense, are means of grace. Both the Word and the Sacraments bring a positive grace which is offered to all who receive them outwardly, and which is actually imparted to all who have faith to embrace it. . . . The Evangelical Lutheran Church regards the Word of God, the Canonical Scriptures, as the absolute and only law of faith, and of life. Whatever is undefined by its letter or its spirit, is the subject of Christian liberty, and pertains not to the sphere of conscience, but to that of order; no power may enjoin upon the church, as necessary, what God has forbidden, or has passed by in silence, as none may forbid her to hold what God has enjoined upon her, or to practise what, by His silence, he has left to her freedom. Just as firmly as she holds upon the one hand that the Bible is the rule of faith and not a confession of it, she holds on the other that the creed is a confession of faith and not the rule of it. The creeds are simply the testimony of the Church to the truths she holds; but as it is the truth they confess, she of necessity regards those who reject the truth confessed in the creed, as rejecting the truth set forth in the Word. While, therefore, it is as true of the Lutheran Church as of any other, that when she lays her hand upon the Bible, she gives the command, 'Believe!' and when she lays it on the Confession, she puts the question, 'Do you believe?' it is also true that when a man replies, 'No,' to the question, she considers him as thereby giving evidence that he has not obeyed the command. . . . *Baptism.* The Lutheran Church holds that it is necessary to salvation to be born again of water, and the Spirit; but she holds that this necessity is ordinary, not absolute, or without exception; that the contempt of the sacrament, not the want of it, condemns, and that though God binds us to the means, He does not bind His own mercy by them. From the time of Luther to the present hour the Lutheran theologians have maintained the salvability and actual salvation of infants dying unbaptized. The rest of the doctrine of the Lutheran Church as a whole, is involved in her confession, with the Nicene Creed, "one baptism for the remission of sin," and that through it the grace of God is offered; that children are to be baptized, and that being

* New American Cyclopædia, Vol. X, pp. 739, 740.

thus committed to God they are graciously received by him. At the same time she rejects the theory of the Anabaptists, that infants unbaptized have salvation because of their personal innocence, and maintains that the nature with which we are born requires a change, which must be wrought before we can enter heaven, and that infants are saved by the application of Christ's redemptory work." It has been charged for more than three centuries that the Lutherans held to the doctrine of *Consubstantiation*, that is, the local or corporeal presence in, with, or under the bread in the Lord's Supper; they deny this most strenuously, but admit that they hold to a sacramental, spiritual, or supernatural presence of the Divine Redeemer in the sacrament, and that those who partake, do in reality feed upon him spiritually, though if unworthy, to their own condemnation. On the subject of the Lord's Day, while it is acknowledged that the general practice among Protestants on the continent of Europe, in regard to its observance, is much more lax than that which prevails in England and the United States, yet the American Lutheran Church profess to hold that the Sabbath was instituted at the creation of man; that the generic idea of devoting one day of the week to rest from labor, and to religious duties, pertains to the entire race through all time; and that the law of the Sabbath, so far as it is not determinative and typical, is binding on Christians.

"*Divine Worship.* The Lutheran Church regards preaching as an indispensable part of divine service. All worship is to be in the vernacular; the wants of the heart as well as of the reason are to be met. Whatever of the past is spiritual, beautiful, and appropriate, is to be retained. The Church year, with its great festivals, is kept. With various national diversities, there is a substantial agreement in the liturgical services of the Lutheran Church, throughout almost all the world. The hymns are sung by all the people, with the organ accompaniment." The hymnology of the Lutheran Church surpasses that of all other churches in the world in sweetness, richness, power, and unction. Even in their English dress there are few hymns more beautiful or soul-inspiring than Luther's "A strong fortress is our God," or "O! Head, so bruised and wounded," or "Jerusalem, the Golden."

"The clergymen in their official functions, wear a distinctive dress, usually a black robe,

with the bands. A preparatory service precedes communion. The doctrine and practice of auricular confession were rejected in the beginning. The "private confession," which was established in some parts of the Church, involves no enumeration or confession of particular sins whatever, unless the communicant desires to speak of them; and the "private absolution" is simply the announcement of the gospel promise, with the gospel conditions to the individual penitent. But even in this form, private confession has ceased in most parts of the church. The practice of exorcism in baptism, simply as a rite long established, and which might be tolerated if regarded merely as a symbolical representation of the doctrine that our nature is under the dominion of sin, was practised in parts of the church, but has fallen almost everywhere into oblivion.

Constitution or Polity of the Church. "Many embarrassing circumstances prevented the Lutheran Church from developing her life as perfectly in her church constitution, as in her doctrines and worship. The idea of the universal priesthood of all believers, at once overthrew the doctrine of a distinction of essence between clergy and laity. (This doctrine is, nevertheless, maintained in one or two of the American synods.—*Editor.*) The ministry is not an order, but it is a divinely appointed office, to which men must be rightly called. No imparity exists by divine right; a hierarchical organization is unchristian, but a gradation (bishops, superintendents, provosts,) may be observed, as a thing of human right only. (In the United States, the Lutheran Church has no bishops, superintendents, or provosts.—*Editor.*) The government by consistories has been very general. In Denmark, Evangelical bishops took the place of Roman Catholic prelates who were deposed. In Sweden, the bishops embraced the Reformation, and thus secured in that country an "apostolic succession," in the High Church sense; though, on the principles of the Lutheran Church, alike where she has, as where she has not such a succession, it is not regarded as essential even to the order of the church. The ultimate source of power is in the congregation, that is, in the pastor and other officers of the church, and the people of the single communions. The right to choose a pastor belongs to the people, who may exercise it by direct vote, or delegate it to their representatives. Synods possess

such power as the congregations delegate to them. "Ministers are related to congregations, not as their servants, but as the servants of the church, and in the United States where the Congregational principle has been more radically developed than anywhere else in the Lutheran Church, "the Synod to which pastors belong has the entire jurisdiction over them." (See Formula of the Lutheran Church, Chap. iii, 3.) Absolute ministerial parity is maintained, and lay representation is universal; but many vital points of church organizations are entirely unsettled, and the doctrine that synods are merely advisory bodies," is often pressed in a way that tends to anarchy.

The Lutheran Church in the United States is divided into the following organizations: 1st, THE GENERAL SYNOD, founded in 1820, and comprising in 1870, twenty Synods, viz: the Synods of Maryland, West Pennsylvania, Hartwick, East Ohio, Frankean, Alleghany, East Pennsylvania, Miami, Wittenberg, Olive, Northern Illinois, Southern Illinois, Central Pennsylvania, English Synod of Iowa, Northern Indiana, New Jersey, Central Illinois, New York, Susquehanna, Pittsburgh, and Kansas. The General Synod recognizes the Augsburg Confession, but allows considerable liberty of doctrinal views in its interpretation. It formerly had more synods connected with it, but six southern synods, subsequently increased to seven, seceded during the war and formed the SOUTHERN GENERAL SYNOD. Their action was based on the resolutions of loyalty to the Government expressed by the General Synod, but they are said to have adhered more closely to the standards, and to have been more strict in regard to the qualifications of membership than the Old Synod. The Northern General Synod had, in 1870, 627 ministers, 1,067 churches, and 103,042 communicants. The Southern General Synod, organized in 1862, had at the same time: 126 ministers, 225 churches, and 20,796 communicants.

A much younger body, and yet having a larger membership, is the GENERAL COUNCIL, organized in 1867. The General Council adheres to the entire body of standards contained in the "Book of Concord," which they declare to be accepted by them as being in full accord with the Scriptures. It comprises twelve Synods, viz: The New York Ministerium, the Synod of Pennsylvania, a Pittsburgh Synod, the English District

Synod of Ohio, the English Synod of Ohio, the Synod of Illinois, the Synod of Michigan, the German Synod of Iowa, the Synod of Minnesota, the Scandinavian Augustana Synod, the Synod of Texas, and the Synod of Canada. These Synods had in 1870, 535 ministers, 986 churches, and 131,632 members.

Six other Synods, viz: Missouri, Ohio, Wisconsin, the Norwegian, Grabaù's-Buffalo Synod, and the German Synod of New York, agree very fully in doctrines with each other, except that the last two named have some peculiar views in regard to the status of the Christian ministry. They differ from the General Council in these four points: they desire to prohibit an interchange of pulpits with all other denominations, and admission to the Lord's Supper; they condemn Millenarianism, and excommunicate from their fellowship all members of secret societies. Their numbers, in 1870, were as follows: ministers, 650; churches, 965; communicants, 150,925. These synods will probably soon be united in one organization.

The following synods, all small, are still independent, but will probably soon be connected with some one of the larger bodies: The Tennessee, Von Rohr's Buffalo Synod, the Concordia, Eielson's Scandinavian Synod, and the Norwegian Danish Conference. These synods had in 1870, 70 ministers, 218 churches, 18,327 members. There were, besides, 30 ministers whose synodal connection was unascertained. There were, therefore, in 1870, connected with the different councils, synods, and conferences of the Lutheran Church in the United States, 53 synods, 2,086 ministers, 3,544 churches, and 425,577 communicants. The other statistics of the Church are partial, and not later than 1869. The General Synod had in that year, 81,445 teachers and scholars in its Sabbath Schools, and contributed to benevolent objects \$340,133. The contributions of the other branches of the church are not reported.

Thirty-two Lutheran newspapers were published in 1870, viz: Eight English, sixteen German, two Swedish, and six Norwegian and Danish. There are two Lutheran Church Almanacs published annually, one at Baltimore, the other at Allentown, Pa. There are 15 Theological seminaries for Lutheran students, with about 60 professors, and 450 students, and 17 colleges with more than 2,000 students. There are also 18 sem-

inaries or academies of high grade under their control.

VIII THE SOCIETY OF FRIENDS OR QUAKERS.

I. THE ORIGINAL OR ORTHODOX FRIENDS. The Society of Friends originated in the early part of the seventeenth century, in Great Britain, as one of those protests against formalism and Christianity from which the heart and life had died out, which have in all ages demonstrated the power of religious principle to react from the deadness of state churches. George Fox, its founder, commenced proclaiming the doctrines of the power of Christ to save men from sin, and the influence of the Holy Spirit in changing and transforming the evil nature, when he was but twenty three years of age, and continued it for forty years, until his death. His followers were not very numerous, but they were exceedingly earnest, stern in their adherence to what they believed to be the monitions of the Holy Spirit, and when persecuted, took joyfully the spoiling of their goods, and went to prison, to the stake, or to the gallows with a calm fearlessness which convinced many of the truth of their doctrines. It was not in England alone that they were thus persecuted. In July, 1656, two female members of the Society of Friends reached the port of Boston, but were compelled by the colonial government to return in the same ship. Others, however, followed soon after, and while their conscientious protest against the prevalent customs and manners may have savored of fanaticism, the colonial authorities were certainly in the wrong in persecuting them so bitterly. They were whipped, imprisoned, and banished from the Massachusetts Colony, and four out of five who ventured to return from banishment, one of them a woman of remarkable gifts and devotion, were hanged for their contempt of the colonial laws. The last martyr of the Society of Friends in America was executed in 1661, but subsequent to that date some were whipped, banished, and imprisoned, in the colonies of Massachusetts and Connecticut. In 1682, a considerable number of Friends came over to Pennsylvania with William Penn, himself a member of the Society. Fox had himself visited America in 1669, and remained till 1673, and had established meetings of Friends in North Carolina and elsewhere, some of which

are still in existence. The Society of Friends in America adheres, to this day, to the organization devised for it by Fox. Their meetings, as they call their congregations, are presided over by Elders, and these the most prudent and judicious men of these congregations, exercise a quiet, but effective, supervision over those who believe themselves called of God to proclaim his truth. The utterances of this truth made as the result of a special impulse or call of the Spirit then and there to speak, are made by both sexes, the doctrine of the Friends on this subject being, that God calls both men and women to utter his truths. The meetings are subject to monthly meetings of the different congregations of a neighborhood or district, and these to the "Yearly Meetings," which are diocesan in their character, and have a controlling and disciplinary power. These Yearly Meetings, of which there are ten or more, are equal in their authority, and there is no appeal from their decisions.

At the time of the commencement of the Revolutionary War, there were about 45,000 Friends in the thirteen colonies, and as they were opposed to bearing arms, and utterly refused to take part in the War, there was at first some apprehension that they were hostile to the patriot side. This impression was soon dissipated; for though, with some few exceptions, the members of the society did not bear arms, they rendered great and conspicuous service to the national cause, and this service was rendered with such sacrifices and with so much liberality as to show that their hearts were in the cause, though they were conscientiously opposed to fighting. For two or three decades after the war, they continued to increase, though not very rapidly. Then came a season of stagnation. They, who, in the beginning of their history, had been the most radical of radicals, were now intensely conservative; and while as holy men and women as ever walked the earth shaded their brows beneath broad brimmed hats and Quaker bonnets, and adhered strictly to the Quaker dress, there had come over the society a spirit of formalism, which occupied itself too much in the petty details of dress and language, and neglected, to some extent, the weightier matters of law, judgment, and faith. Their services had become distasteful to many of their young people, and these were abandoning the faith of their fathers and going to the opposite extreme of Ritualistic observance in the Episcopal Church, or,

in still stronger protest against its stringent rules of life, became the most worldly of worldlings, till it became a byword in regard to the fastest of fast young men, "They were brought up as Quakers! Meanwhile, there was in the meetings themselves a gradual drawing away from the soundness of their pristine faith. There were not, as of old, those fervent, earnest testimonies; the Spirit's power of impressing men and women to utter the word of exhortation came to be less frequently and less decidedly manifested than of old, and ever and anon there were those mute, but protracted, assemblies which bore witness more powerfully than any prophetic utterance could have done, that it was not with them as in days past, when the candle of the Lord shined around about them. In 1827 came the great secession, when almost one-third of their number repudiated the claims of Christ, as the God-man, the Divine Redeemer, and, while still claiming to be "Friends," withdrew with their leader and formed a new organization. For more than twenty years that followed, the 'Friends' of the Orthodox faith still walked in the wilderness, amid clouds and darkness; still their sons and daughters fell away to the world, and their numbers decreased or remained stationary.

But at length the time of refreshing came, and as the testimonies to God's goodness and grace multiplied, and their meetings were no longer silent and dreary as of old, they began to extend their influence, and to find in active work for Christ, in the First Day Schools, in the distribution of the Word of God, in labors for the poor, oppressed, and down trodden, the true secret of success. Since 1850, their numbers have nearly doubled, and in the work of religious instruction, and vigorous efforts for the conversion of men, they have found such blessings that they have become an aggressive, earnest, and efficient body of Christian men and women.

"The Society of Friends," says Mr. William J. Allinson, editor of *The Friends' Review*, "is not at issue with other Orthodox churches on the general points of Christian doctrine. Avoiding the use of the word Trinity, they reverently believe in the Holy Three: the Father, the Lord Jesus Christ, the only begotten of the Father, by whom are all things, who is the Mediator between God and man, and in the Holy Spirit, who proceedeth from the Father and Son—ONE GOD, blessed forever. They accept, in its

fullness, the testimony of Holy Scripture with regard to the nature and offices of Christ, as the promised Messiah, the Word made flesh, the atonement for sin, the Saviour and Redeemer of the world. They have no reliance upon any other name, no hope of salvation that is not based upon his meritorious death on the cross. As fully do they admit his humanity, and that he was truly man, "sin only excepted." They so fully believe in the Holy Spirit of Christ, that without the inward revelation thereof they feel that they can do nothing to God's glory, or to further the salvation of their own souls. Without the influence thereof they know not how to approach the Father, through the Son, nor what to pray for as they ought. Their whole code of belief calls for the entire surrender of the natural will to the guidance of the pure, unerring Spirit, through whose renewed assistance they are enabled to bring forth fruits unto holiness, and to stand perfect in their present work. As it was the design of Christ in going to the Father, to send, as a Comforter, his Spirit to his disciples, so it is with his Spirit that he baptized and doth baptize them, it being impossible, in the estimation of the Friends, that an outward ablution should wash from the spirit of man the stains of sin. Hence they attach importance to "the baptism which now saveth," and which John the Baptist predicted should be administered by Christ. And it is by his Spirit, also, that his followers are enabled to partake of the true Supper of the Lord: "Behold I stand at the door and knock: if any man hear my voice, and open unto me, I will come in and sup with him, and he shall sup with me." Thus they hold that the coming of the Lord Jesus Christ in the flesh was the grand epoch and central fact of time, and that types and shadows, and all ceremonial observances, which had their place before, as shadows of good things to come, now that they have been fulfilled in Him, are only shadows of those shadows. The type properly precedes the reality, and truly this was worthy of being foreshadowed; "but," says Paul, "when that which is perfect is come, that which is in part shall be done away."

In regard to their views of the resurrection, Thomas Evans, another of their leading writers, says: "The Society of Friends, believes that there will be a resurrection both of the righteous and the wicked; the one to eternal life and blessedness, and

the other to everlasting misery and torment, agreeably to Matt. XXV, 31-45; John V, 25-30; 1 Cor. XV, 12-58. That God will judge the world by that man whom he hath ordained, even Christ Jesus the Lord, who will render unto every man according to his works; to them who by patient continuing in well doing during this life, seek for glory and honor, immortality and eternal life; but unto the contentious and disobedient, who obey not the truth, but obey unrighteousness, indignation and wrath, tribulation and anguish, upon every soul of man that sinneth, for God is no respecter of persons."

The Friends have ever regarded war as inconsistent with Christianity. For this they refer to the teachings of Christ and his apostles, the example of the early Christians, and to the witness for truth in their own consciences, tested and confirmed by the sacred writings. They find that all the emotions which are exercised in wars and fightings are traced to evil lusts, and are inconsistent with love which is the substance of the first, the second, and the new commandment, which "worketh no ill to his neighbor," and on which "hang all the law and the prophets." They consider oaths to be inadmissible, as being positively forbidden by our Lord in language not to be mistaken, and this testimony was made the occasion of inflicting severe penalties upon the first Friends. When their persecutors failed to convict them upon false charges, it was customary to administer the test oaths to them, on refusing to take which, they were cast into prison.

They decline to use the complimentary and false language of the world, and to apply to the months and days, the names given in honor of pagan gods, preferring the numerical nomenclature adopted in the Scriptures. In dress, they aim at plainness and simplicity, avoiding the tyranny of an ever-changing fashion. As a natural result, a degree of uniformity of dress prevails among them, bearing much resemblance to the style in vogue at the rise of the Society. This approach to uniformity, which at first was unintentional, came to be cherished as a hedge of defense against worldly and ensnaring associations, and a means by which they recognized each other. The principle at stake is not in the fashion of a garb, but in simplicity and the avoidance of changes of fashion. Whilst Friends, as good citizens, have cheerfully paid all legal assessments for the support of public schools, and of the poor, and

have contributed abundantly to the various charities, and general claims of benevolence, they have always been characterized by their scrupulous care in relieving their own poor, so that none of their members come upon the public for maintenance or gratuitous education.

The Friends had, in 1870, including one in Canada, ten Yearly Meetings in North America, namely, those of Canada, New England, New York, Philadelphia, Baltimore, North Carolina, Ohio, Indiana, Western Indiana, and Iowa. The increase of membership in the Western States has been very rapid of late years. The membership of the Society is estimated at 80,000. In all the Yearly Meetings, First Day Schools are conducted with zeal and efficiency. The number of teachers and scholars in these First Day Schools is about 65,000. The North Carolina Yearly Meeting has established a Normal First Day School, for the training of teachers of these Schools. They have three colleges, all of them of high character for their thorough scholarship, viz.: Haverford College, in Philadelphia county, Penn.; Earlham College, Richmond, Indiana, and Whittier College, Salem, Iowa. They have, also, large and admirably conducted boarding schools, under the care of their Yearly Meetings, at West Town, Pa., Providence, R. I., Union Springs, N. Y., and New Garden, N. C. They have two or three periodicals of marked ability, *The Friends' Review*, conducted by Mr. Allinson, being in literary merit not inferior to any religious review in this country.

II. THE SOCIETY OF FRIENDS (SECEDERS OR HICKSITES). We have already referred to the schism or secession which took place from the Society of Friends, beginning with the Philadelphia Yearly Meeting, in 1827. This secession was led by a preacher among the Friends, named Elias Hicks, and hence those who have followed his leading are commonly called Hicksites, though they repudiate the name and insist that they should be known solely as the Society of Friends. The points of difference between them and the Orthodox Friends seem to have been these: Hicks and his followers, while maintaining a belief in the authenticity and divine authority of the Scriptures, yet do not regard them with the same degree of reverence and faith as the Orthodox. In their authorized summaries of Christian doctrine and the "advices of their Yearly Meetings,"

they say: "We acknowledge them to be the only fit outward test of Christian doctrines. We do not call them the Word of God, because this appellation is applied by the writers of the Scriptures to that Eternal Power by which the worlds were made. . . . We assign to the Scriptures all the authority they claim for themselves. . . . In these invaluable writings we find the only authentic record of the early history of our race, the purest strains of devotional poetry, and the sublime discourses of the Son of God. Their frequent perusal was therefore especially urged upon our younger members, who were encouraged to seek for the guidance of divine grace, by which alone we realize in our experience the saving truths they contain. . . . We believe it not the part of true wisdom to dwell upon defects, whether real or imaginary, in the sacred records, but rather to use them as they were intended, 'for reproof, for correction, for instruction in righteousness,' remembering that it is only through the operations of the Spirit, of Faith upon our hearts, that they can be made availing to us in the promotion of our salvation."

In regard to the original and present state of man, they differ somewhat from the Orthodox, as the following extracts show: "It is a scriptural doctrine that neither righteousness nor unrighteousness can be transmitted by inheritance, but every man shall be judged according to his deeds. . . . Animal propensities may be transmitted from parents to children, but the Scriptures do not teach that we inherit any *guilt* from Adam, or from any of our ancestors; nor do we feel any compunction for their sins. The language of our Saviour clearly implies that little children are innocent: "for of such," he says, "is the kingdom of heaven."

The followers of Hicks are generally considered Unitarians or Socinians, and yet, while they apparently do not regard Christ as the Second Person in the Divine Trinity, nor attribute a saving efficacy to his death and sufferings, we are inclined to the belief that there is a considerable variety in the views of the individual members of the Society, and, perhaps, even among their leading or representative men on this point. Their "summaries," and "advices" are exceedingly vague, and sometimes conflicting, on these points. The Rules of Discipline of the Philadelphia Yearly Meeting, say: "If any in membership with us shall blaspheme, or

speak profanely of Almighty God, Christ Jesus or the Holy Spirit, he or she ought early to be tenderly treated with, for their instruction, and the announcement of their understanding, that they may experience repentance and forgiveness; but should any, notwithstanding this brotherly labor, persist in their error, or deny the divinity of our Lord and Saviour, Jesus Christ, the immediate revelation of the Holy Spirit, or the authenticity of the Scriptures, as it is manifest they are not one in the faith with us, the monthly meeting where the party belongs, having extended due care for the help and benefit of the individual without effect, ought to declare the same, and issue their testimony accordingly." Samuel M. Janney, author of the "History of Friends," and one of the leading writers of the Seceding party, thus defines their views in regard to Christ: "The most full and glorious manifestation of the divine Word, or Logos, was in Jesus Christ, the immaculate Son of God, who was miraculously conceived and born of a Virgin. In him, the manhood, or Son of Man was entirely subject to the divinity. The Word took flesh, or was manifested in the flesh. .

. . . . The holy manhood of Christ, that is, the soul of him in whom the Holy Spirit dwelt without measure, is now, and always will be, the head or chief member of that spiritual body which is made up of the faithful servants of God, of all ages and nations. 'There is one God, and one Mediator between God and man, the man Christ Jesus.' As Moses was a mediator to ordain the legal dispensation, so Jesus Christ was, and is, the Mediator of the New Covenant; first, to proclaim and exemplify it in the day of his outward advent, and secondly, through all time, in the ministrations of his Spirit. .

. . . . The great object of the Messiah's advent, is thus declared by himself: "To this end was I born, and for this cause came I into the world, that I should bear witness unto the truth. Every one that is of the truth, heareth my voice." He could not bear witness to the truth, among that corrupt and perverse people, without suffering for it. He foresaw that they would put him to death, and he went forward calmly doing his Father's will, leading a life of self-sacrifice, wounded for the transgressions of the people, baptized spiritually in suffering for them, and then finally enduring, on the cross, the agonies of a lingering death, thus sealing his testimony with his blood. His obedience in

drinking the cup of suffering was acceptable to God, for 'he hath loved us, and hath given himself for us, an offering and a sacrifice to God, for a sweet smelling savor.' It was to reconcile man to God, by removing the enmity from man's heart, that Jesus Christ lived, and taught, and suffered, and for this purpose the Spirit of Christ is still manifested as a Redeemer from the bondage of corruption. . . . It is the life of God, or spirit of Truth revealed in the soul, which purifies and saves from sin. This life is sometimes spoken of as the blood: for according to the Mosaic law, '*the blood is the life*.' And when Jesus told the people, 'except ye eat the flesh of the Son of Man, and drink his blood ye have no life in you,' he alluded to the life and power of God that dwelt in him, and spake through him." How far the views thus stated agree with those generally held by the followers of Elias Hicks, we cannot say. They would seem to stamp Mr. Janney and his fellow believers as sympathizing with what is sometimes called the Evangelical wing of the Unitarians. In their other views, the Seceders do not differ materially from the Orthodox Friends. They have been, for some years past, quite active in humanitarian enterprises, being strongly anti-slavery, and having been active in the promotion of asylums and hospitals for the insane, the inebriate, the idiot, and for orphans, blind persons, and the aged and infirm. They had in 1870, six Yearly Meetings, and an estimated membership of between 35,000 and 40,000. They have not done much in the way of establishing First Day Schools, but their boarding and high schools in New York, Philadelphia, Baltimore, and Richmond, Indiana, as well as their smaller schools, are of very high character. Swarthmore College, 8 miles S. W. of Philadelphia, is a well endowed and admirably managed institution, designed for 300 pupils, of both sexes. They have two or three well conducted periodicals.

III. PROGRESSIVE FRIENDS. This is a religious society, organized in 1853, at Chester, Penn., in part as a result of a division in the Kennett Monthly Meeting, of (Hicksite) Friends. The division was caused by a difference of opinion among the members of that meeting, in regard to the propriety of activity in measures of reform. It was organized as the Pennsylvania Yearly Meeting of Progressive Friends, and not long after other organizations in New York and Ohio, having similar objects in view, as well as

individuals from New England, New York, and the Western States, who sympathized with it, gradually drifted into a similar organization so far as to attend its Yearly Meetings. Mr. Oliver Johnson, formerly of the *National Anti-Slavery Standard*, and the *Independent*, who has been long identified with this movement, thus defines its character and principles: "The new Society opened its doors to all who recognize the equal brotherhood of the human family, without regard to sex, color, or condition, and who acknowledged the duty of defining and illustrating their faith in God, not by assent to a creed, but by lives of personal purity, and works of beneficence and charity. It disavowed any intention or expectation of binding its members together by agreement as to theological opinions, and declared that it would seek its bond of union in 'identity of object, oneness of spirit in respect to the practical duties of life, the communion of soul with soul in a common love of the beautiful and true, and a common aspiration after moral excellence.' It disclaimed all disciplinary authority, whether over individual members or local associations; it set forth no forms or ceremonies, and made no provision for the ministry, as an order distinguished from the laity; it set its face against every form of ecclesiasticism, and denounced as the acme of superstitious imposture, the claim of churches to hold an organic relation to God, and to speak by his authority, maintaining that such bodies are purely human, the repositories of no power save that rightly conferred upon them by the individuals of whom they are composed." With so radical a platform, it is not a matter of surprise that the yearly gatherings of this Society have drawn together ultraists of all shades, the "come outers" of thirty years ago, Spiritualists, the advocates of female suffrage, and of all manner of practicable and impracticable reforms, and that while, in the company, were many men of lofty purpose and the true martyr spirit, there were others whose whole lives had been devoted to wild and fanatical theories in religions, politics, and social life. Generally these gatherings have been largely attended, but except a single local association at Longwood, near Hamorton, Penn., which have kept up for several years, a meeting on every First Day, and a First Day School for children, and discuss freely questions of ethics, political economy, and religion at their meetings, but have never employed any religious

teacher. It is obviously impossible to give any estimate of the number of Progressive Friends, as their meetings are open to all who choose to come, and there is no enrollment of membership.

IV. We are inclined to place under this general head, also, the SHAKERS, or as they style themselves, the UNITED SOCIETY OF BELIEVERS IN CHRIST'S SECOND APPEARING, not because there is much in common to them and the *Society of Friends* now, but because in their origin they were members of that Society, and because their views of the influence, and inward teachings of the Holy Spirit, though carried to excess, have the same original basis. Attempts have been made to trace their principles back to the *Camisards* or French prophets, and to the school of the prophets in Dauphiny (1688-1705), but these are so evidently an afterthought, as to be unworthy of notice. About 1747, some members of the Society of Friends in the vicinity of Manchester, England, formed themselves into a distinct organization, of which James Wardley and Jane, his wife, were the leaders, and a Mr. and Mrs. Lee were members. Ann Lee, a daughter of the last named couple, born in 1736, and always seriously inclined, had married, in 1756, Abraham Stanley, and in 1758, she, with her husband, joined the association. The religious exercises of this little coterie differed but slightly from those of the other associations of Friends at that time. They were noticeable for greater and more decided physical manifestations than most, such as dancing, shouting, trembling, speaking with tongues, but these were common in that day, and it was only when the excitement was so great as to lead the magistrates and others to charge them with breaking the Sabbath, that the Wardleys, and Ann Lee and her family were fined and imprisoned. In 1770, Ann Lee, then 34 years of age, and to all appearance a woman of no extraordinary talents or education, professed to have received, by a special manifestation of divine light, those revelations which made her the founder of a new faith, and have caused her followers ever since to regard her as an inspired being, and to give her the name of Mother Ann.

In 1774, Mother Ann, and nine of the more prominent members of the Society, under authority of a special revelation, emigrated to America, and 8 of the number proceeding up the Hudson, settled at Niskayuna

(now Watervliet), seven miles from Albany, N. Y., a region then a wilderness. Here they remained for three or four years without any excitement, or considerable increase of their numbers. In 1779, a religious revival occurred at New Lebanon, Columbia Co., some thirty miles from Niskayuna, and was accompanied by those extraordinary physical manifestations which a little later characterized the great revivals in Kentucky and Tennessee. In the spring of 1780, some of those who had been most affected by these manifestations, visited Mother Ann at Watervliet, and found in her revelations, as they believed, the explanation of their experiences. Led by their statements, others visited her, and the number of adherents to her doctrines began to increase rapidly, and continued to do so until some time after her death, which occurred in 1784. Among the revelations which she professed to have received was one directing that there should be a community of goods among her adherents, and another requiring their organization into one or more unitary households. In 1787, Joseph Meacham, who had formerly been a Baptist preacher, and who was one of her earliest converts at Niskayuna, gathered her adherents into a settlement at New Lebanon, and established there the first unitary household on a large scale, and with complete community of goods. He was an able administrator, and in five years he had organized 11 Shaker settlements, in New York, Massachusetts, Connecticut, New Hampshire, and Maine. No others were established until 1805, when, after some years effort, four were established in Ohio, and 2 in Kentucky. All are on the same model as that of the New Lebanon Community, regarded from the first as the mother house. Each settlement consists of from two to eight families or households. Each family occupies a large dwelling-house, divided through the center by wide halls, and capable of containing from 30 to 150 inmates, the men occupying one end and the women the other. Beside these, there are storehouses, workshops, dairy houses, a school house for the children they adopt, and a meeting-house or hall. Considerable tracts of land are attached to each settlement, ranging from seven to ten acres to each member. They believe idleness to be sinful, and hence every member who is able to work is employed in some useful labor. They cultivate flowers, medicinal herbs and roots, fruits, vegetables, and collect garden and

flower seeds, dry and preserve fruits, put up dried herbs and roots, and make medicinal extracts. They have also extensive manufactories connected with their settlements. Brooms, wooden and willow ware, some descriptions of cloths, flannels, etc., etc., are produced by them. Their schools are of high grade and abundantly supplied with the best text books, and apparatus. Their doctrines as stated by their chief elder, F. W. Evans, are these: "God is dual, there being an Eternal Father and Mother in the Deity, the heavenly parents of all angelical and human beings. The revelation of God is progressive; in the first or antediluvian period of human history, God was only known as a Great Spirit; in the second or Jewish period, he was revealed as the "I am that I am," or Jehovah; in the third cycle, Jesus made him known as a Father; and in the last cycle, commencing with 1770, God is revealed in the character of Mother, an Eternal Mother, the bearing spirit of all the creation of God. This last is regarded by them as a revelation of God's affectional nature, a manifestation of the divine love and tenderness. They believe Christ to be also dual, male and female, a supra-mundane being, and, at his first appearing, the communicator of the new revelation to Jesus, who, in their system, was a divinely instructed, pure, and perfect man, and who, in consequence of his divine anointing, became Jesus Christ. In the new revelation made to Jesus, these truths were first brought to light; the immortality of the soul, and the resurrection of the soul, which they define as the quickening of the germ of a new life, after the death of the first, Adamic, or generative life.

All who marry or are given in marriage, or who indulge in the earthly procreative relation, they call "the children of this world," and followers of the first Adam; they do not condemn them for living in the marital relation so long as they confine its use simply to the purpose of procreation, the production of offspring being, in their view, the only justification of sexual intercourse. But Shakers, as Christians, hold that they are called to lead a spiritual and holy life, not only free from all lust and carnal sexual indulgence, but even to rise above the order of natural and innocent human reproduction, being themselves the "children of the resurrection," and as such daily dying to the generative nature, as Jesus and the apostles died to it, and thus becoming new creatures,

who are able to comprehend the "mysteries of God." Among the other doctrines in which, as they believe, "Christ instructs Jesus," were, human brotherhood, and its development in a community of goods; non-resistance; non-participation in any earthly government, and the necessity of a life of celibacy and virgin purity to a perfect Christianity.

The second appearing of the Christ "without sin unto salvation," they believe took place through Mother Ann Lee, in 1770. She, "by strictly obeying the light revealed in her, became righteous, even as Jesus was righteous. She acknowledged Jesus Christ as her Head and Lord, and formed the same character as a spiritual woman, that he did as a spiritual man." The necessity for a second appearing of Christ in the female form, resulted from the dual nature of Christ, and of the Deity. "Still it was not Jesus, nor Ann, but the principles already stated, which were the foundation of the Second Christian Church. Their importance is derived from the fact of their being the first man and the first woman perfectly identified with the principles and spirit of Christ." This second appearing of Christ they believe to be the true resurrection state, and repudiate a physical resurrection as repugnant to science, reason, and Scripture. We have noticed their four cycles of human religious progress; they also believe that there are four heavens and four hells, the first three of which are still places of probation. The first heaven and hell were for the good and wicked of the antediluvians, and the "spirits in prison," to whom Christ preached in the interval between his death and resurrection, were the wicked of that cycle. Gehenna is the name they give to the second hell, to which are consigned wicked Jews and heathen who died before the coming of Jesus; and the second heaven is paradise, where the thief on the cross had the promise of going. The third heaven is that of the church of the first appearing of Christ, to which Paul was caught up. Higher and more glorious than those which preceded it, it is still not the home of perfect souls. The hell of the third cycle is a place of torment for those who did not believe in, nor follow Christ, according to the light of those days. The fourth heaven is now forming; in it Jesus and Mother Ann reside, and to it will all those go who have resisted temptation until their evil lusts and propensities are all destroyed, and the

life of the generative, natural man is dead in them, for such are born of God, and cannot sin. No one but Jesus had ever attained to this previous to the second appearing of Christ in Ann Lee. It is the heaven of heavens, and to it will be gathered not only all who accept the doctrines of the Shakers in this world, and attain to the new birth, but all those in the lower heavens and hells who shall yet accept them; and when their decision is finally made, the lower heavens and hells, and the earth will be destroyed, and only the fourth heaven for the true believers, and the fourth hell for the finally impenitent, will remain. Each cycle has had its own Holy Spirit, the spiritual efflux from the Church in the heaven of that cycle to the inhabitants of earth at the time. They hold to oral confession of sins to God in the presence of one or two witnesses, as essential to the reception of the power to forsake sin. They believe that the second dispensation (that of Moses) was intended to teach by revelation, God's truth pertaining to the earth-life chiefly, and they regard the principles of the Levitical laws, in regard to food and agriculture, etc., as binding to-day as when they were given. All physical disease they say, is the result of some physiological sin against the teachings of Moses, either directly or indirectly. They believe in the power of their members to heal physical diseases, by means of prayer and the regulation of the diet.

The Bible they regard as a record of divine angelic ministrations to man, and as a more or less imperfect account of the religious experience and history of the Jews. They believe that the mental and spiritual condition of the seers and prophets whose prophecies are therein recorded, has materially modified the revelation, and that it has been still farther weakened and impaired by the imperfections of the translators; the book of Revelations having suffered less than any other from these causes, inasmuch as it is utterly incomprehensible to the generative man, and could not be comprehended even by the spiritual until the second appearing of Christ (through Mother Ann Lee), as that was the only key to unlock its mysteries. The revelations of Ann Lee and of others of their elders who have been inspired to speak the words of God, they regard as important and binding on them.

Their mode of worship is peculiar. The two sexes are usually ranged in ranks facing

each other, the front ranks being from six to ten feet apart. First there is usually an address by one of the elders, "who is moved to speak" on some doctrinal subject, or some practical virtue, usually closing with a recital of the exalted privileges which they enjoy over the "world's people;" after this they sing a hymn, and then form in circles around a band of male and female singers, and commence marching or dancing, and when, as is sometimes the case, the excitement and fervor reaches its height, their motions, though retaining the order and rhythm of the dance, become inconceivably rapid. At these seasons they believe themselves to be under the influence of spirit agencies, both of angels, and the departed members of their own brotherhood, who have attained in the other life to a greater freedom from the generative nature and order, and a more complete resurrection of the soul, than those who are still in the body can reach. Their ministry are very few in numbers. Two of their most judicious and experienced brethren and the same number of sisters are chosen to have the oversight of from one to three or four Societies; so that there are only twenty or twenty-four of these ministers in all. Each family in every Society has also four elders, viz., two brethren, and two sisters, who have charge of it, and the temporalities are cared for by two deacons, and two deaconesses.

There are three classes of members: 1. The novitiates, who unite with the Society in religious faith and principle, but do not enter into the temporal connection with it. Believers of this class are not controlled by the Society as to their property, children, or families.

2. The Juniors, who join one of the families of the Society, and unite in its labors and religious exercises, but who have not relinquished their property to the Society, or if they have given the Society the improvement of it, may resume it at any time, though without interest; and 3d, the Senior class, who, after a full and complete experience of the Shaker system and faith, have deliberately consecrated themselves, their services, and all their property to the Society never to be reclaimed by themselves or their legal heirs. All who retain their connection with the Shaker Communities are amply provided for in health, in sickness, and in old age. The Shaker Communities are all thrifty and have acquired by their industry, considerable, and some of them very large amounts

of property. They had, at the latest reports, 18 societies, about 6,500 full members (Seniors), and, perhaps, 1,000 more juniors and novitiates, besides a considerable number (nearly three thousand, it is said) of children, orphans, and others, whom they have adopted, and whom they carefully educate. They are thrifty, industrious citizens, and in all the relations of life very exemplary.

IX. UNITAS FRATRUM, OR MORAVIANS.

THE MORAVIANS, OR UNITY OF THE BRETHREN (*Unitas Fratrum*), as they style their religious body, originated with the Bohemian and Moravian churches of the 9th century, but did not assume their present organization till 1457, although they identify themselves with the followers of John Huss more than half a century earlier. They were almost crushed out by the persecutions of Ferdinand II, in 1621 and the following years, but through the fostering influence of the writings and teachings of Amos Comenius, one of their bishops, they were enabled to maintain a secret existence. About 1720 a Moravian exile, Christian David, began to address them earnestly, and a revival ensued. In 1722, two families, subsequently followed by others, made their escape from Moravia, and, after a journey of eleven days, reached the estate of Count Zinzendorf, a young Saxon nobleman, and were cordially received. The Count became thenceforth their leader, and in five years had 300 Moravians on his estate. They had built a village on the Hutberg, called Herrnhut. In 1735, they had obtained the Episcopal succession of the *Unitas Fratrum*, and in 1749 they were acknowledged by the British Parliament as an Episcopal Church, and encouraged to settle in North America. They accordingly founded several settlements in the American Colonies, and engaged with great zeal in missionary labors among the Indians, in which they were very successful. They also founded missions in Greenland and elsewhere, many years before the other Protestant denominations had engaged in missionary effort. Their plan of "settlements" or villages in which no person could be a permanent householder unless he or she was a member of the Church, as well as their unitary household of single men and youths, of single sisters and young maidens, and of widows, each presided over by elders of their own sex, their very rigid rules in regard to marriage,

and their exclusive and earnest devotion to the missionary work, while it kept their numbers small, greatly contributed to their purity of faith and doctrine. At the period of the Revolution, they probably did not number, of full communicants, in the United States, more than 3,000 souls, and, perhaps, not so many. They had, beside, their several thousand converts among the Indians, who remained faithful to their religious principles, and a considerable number of whom were martyrs to their faith. The distinctive settlements, and the brethren's, sisters', and widows' houses are now entirely given up in the United States. They have two provinces, a Northern, and a Southern, the headquarters of the northern being at Bethlehem, Penn., and of the southern, at Salem, N. C. They have also large boarding schools, and are predominant in the population at Bethlehem, Nazareth, and Litiz, Penn., and at Salem, N. C.

The Moravians are thoroughly Evangelical in their doctrines, and while they sympathize most heartily and fully with the Evangelical churches in all the great cardinal doctrines of scriptural Christianity, they regard it as their special mission to make the principal theme of their preaching and teaching, the life, merits, acts, words, sufferings, and death of the Saviour; considering the revelation of God in Christ as intended to be the most beneficent revelation of the Deity to the human race. In thus preaching and teaching, they carefully avoid entering into any theoretical disquisition on the mysterious essence of the Godhead, simply adhering to the words of Scripture. Admitting the Sacred Scriptures as the only source of Divine Revelation, they nevertheless believe that the Spirit of God continues to lead those who believe in Christ, into all truth; not by revealing new doctrines, but by teaching those who sincerely desire to learn, daily better to understand and apply the truths which the Scriptures contain. They believe that to live conformably to the gospel, it is essential to aim in all things to fulfil the will of God. Even in their temporal concerns, they endeavor to ascertain the will of the Lord. They do not, indeed, expect any miraculous manifestation of his will, but only endeavor to test the purity of their purposes by the light of the Divine Word. Nothing of consequence is done by them, as a Society, until such an examination has taken place; and in cases of difficulty, the question is decided

by lot, to avoid the undue preponderance of influential men, and in the humble hope that God will guide them rightly by its decision, where their limited understanding fails them. In regard to their general, doctrinal belief, the following summary, revised and put forth by their General Synod in 1869, is their most authoritative statement:

“We regard every truth revealed to us in the Word of God as an invaluable treasure, and sincerely believe that the loss of life itself would be a trifling evil compared with the denial of any one of them. But most especially is this the case with that truth which the Renewed Church of the Brethren has ever regarded as her chief doctrine, an inestimable jewel, which, by God’s grace, she still holds fast:

‘That whosoever believeth in Christ’s redemption,
May find free grace and a complete exemption
From serving sin.’

From this great truth, we deduce the following points of doctrine most essential to salvation:

- a. The doctrine of *the total depravity of human nature*,—that there is no health in us—and that, since the fall, we have no power to help ourselves out of the bondage of sin.
- b. The doctrine of *the love of God the Father*, who ‘has chosen us in Christ, before the foundation of the world,’ and who ‘so loved the world that he gave his only begotten Son, that whosoever believeth on Him should not perish, but have everlasting life.’
- c. The doctrine of *the real Godhead, and the real manhood of Jesus Christ*; that God, the Creator of all things, was manifest in the flesh, and has reconciled the world unto himself—that ‘He is before all things, and by Him all things exist.’
- d. The doctrine of *the atonement and satisfaction of Jesus Christ for us*; that he ‘was delivered for our offences, and was raised again for our justification,’ and that in his merits alone we find forgiveness of sins and peace with God.
- e. The doctrine of *the Holy Ghost and his gracious operations*; that it is he who works in us the knowledge of sin, faith in Jesus, and the witness that we are the children of God, and that without him we cannot know the truth.
- f. The doctrine of *the fruits of faith*; that it must show itself as an active principle, by a willing obedience to God’s commandments, flowing from love and gratitude, and that

genuine faith *will* ever be thus distinguishable.”

In their church polity, the Moravians have points of similarity to several other denominations; they have bishops, presbyters, and deacons like the Protestant Episcopal Church, but their bishops are not diocesan, but are appointed for the whole church; they hold to Episcopal succession, which they derive through the Bohemian and Moravian churches, and which, if apostolical, comes through Paul instead of Peter; but their bishops possess no governing power by virtue of their bishopric; it is the General Synod and its boards that govern, and the bishops derive their power, if they have any, from their connection with some of these boards; their presbyters or elders are preachers and pastors; their deacons are young ministers and missionaries, who can administer the sacraments after receiving their first ordination. They have a liturgy consisting of a litany, forms for infant and adult baptism (they are Pædo-baptists), the sacrament of the Lord’s Supper, the rites of confirmation and ordination, the burial of the dead, and marriage. Love-feasts, the apostolical *agapæ*, are celebrated, and once a year, or oftener, there is the rite of “washing the saints’ feet.” Their General Synod, always held at Bethelsdorf, in Saxony, meets only once in ten or twelve years. It has cognizance of the whole affairs of the “Unity of the Brethren;” but in most matters, local Boards of Elders of the several provinces, have control in the interim of the sessions of the Synod. Each province has its synod, and its Provincial Elders’ Conference, and these, and not the Bishops, manage all matters connected with the Church in their province. The American province is divided into two districts, a northern and a southern. They are still very active in the missionary work, and have, in addition to their missionaries among the heathen, nearly a hundred of their ministers who are serving in Lutheran and Reformed churches. In these churches, there are many thousands who are almost as closely affiliated to them as their own members. Every church is divided into three classes: the *Catechumens*, comprising the children of the brethren, and adult converts; the *Communicants*, who are admitted to the Lord’s Supper, and are regarded as members of the church; and *The perfect*, consisting of those who have persevered for

a long time in a course of true piety. From this last class are chosen in every church by a plurality of votes, the elders, who are from three to eight in number. These elders are of both sexes, and are assistants to the pastors, in the general church work.

The latest statistics we have of the Moravian Church are only to the close of 1868. They had then five bishops, one of whom has since deceased; 66 ministers; 54 congregations; 6,768 communicants; 11,855 members, including baptized children, etc.; 623 Sunday School teachers, and 5,959 Sunday School scholars. Their boarding schools have increased to six by the addition of one at Chaska, Minn., and one in Bartholomew Co., Ind. They have a theological school at Bethlehem, Penn. Their only periodical in the United States, *The Moravian*, is published at Bethlehem. There is no statement of the portion of the missionary work, or the missionary contributions from the American Moravian churches, the mission work being conducted from the headquarters in Saxony. The entire contributions of the whole church for missionary purposes, (which had 15,176 communicants in 1868) was about \$125,000.

X. UNITARIANS AND UNIVERSALISTS.

I. UNITARIANS. The rejection of the doctrine of the Trinity, and the subordination of the Son to the Father, with the acceptance of the other doctrines which have been affiliated with it, has existed in one form or another since the second or third century. At first it was Arianism, contending that the expression, "only begotten Son of the Father," implies a beginning and a subordination of the Son; this view, though maintained even to the early part of the present century in some quarters, gave place generally, to the slightly modified theories of Faustus and Laelius Socinus, in the 16th century, and these, though still prevalent on the continent of Europe, and largely held in the last century in England, by Priestley and his followers, have in their turn been succeeded by the Unitarianism of Channing and his successors. Priestley's views, founded on the principles of the sensational philosophy, and accepting religious truths on the evidence of miracle, but limiting the number of those truths to the cardinal doctrines, the unity of God, and the general resurrection, found some credence in the American Colonies about the middle of the last century. Priest-

ley himself visited Philadelphia, in 1779. Emlyn's "Inquiry into the Scripture Account of Jesus Christ," was published in Boston, in 1756, and there was a gradual lapsing of very many of the clergy of Massachusetts into Arian views in the latter part of the eighteenth century, the result in part, doubtless, of that looseness of doctrine which grew out of the adoption of the Half way Covenant. Toward the close of the century, the tone of religious society in Boston was very generally *Unitarian*, repudiating the Divinity of Christ, and the necessity of an atoning sacrifice, but declining to enter into particulars in regard to the exact status of Christ in their religious system. In 1805, a Unitarian was elected professor of divinity in Harvard University. But as yet, there was no separation, and no lines were drawn, among the Congregationalists of Massachusetts, between Orthodox and Unitarian. The separation came in 1815 and the following years, when the eloquent Channing avowed his Unitarian views, and led off from 15,000 to 20,000 members of the Congregational churches of Massachusetts, or nearly 200 congregations. Channing was not an ultra-ist in his views, and his plan of withdrawing interest from points of controversial divinity, subordinating religious theories to the religious life, and bringing into marked prominence the spiritual elements of human nature, and in this way initiating the practice of trying religious systems by the instincts and sentiments of the soul, was exceedingly attractive to those restless spirits who had so long been in search of some faith which could satisfy their aesthetic nature, and quiet their perturbed spirits. But Channing's successors went farther than he, and many of them in a different direction.

It is hard to define the Unitarian belief, because it is not, in any sense, a unity. While its adherents have some positive points of belief, in which, however, they widely disagree, their tenets are better expressed by a series of negatives, than by positive declarations, confessions, or creeds. They agree in holding to the Unity of God, and the subordination of the Son of God; but while some of them do not attempt to define his real position in their religious system, others hold to every phase of belief from those who accept the Trinity in a philosophical sense, but reject the deity of Christ, to those who hold him to have been mere man, a weak and peaceable man, or a myth.

A considerable number, though not a majority, believe him to be a super-angelic being, divinely commissioned to be the mediator between God and man; others hold that he was a teacher, the prophet and founder of a new religious system; the major part regard him as sinless and pure in his teachings and life, while a not inconsiderable minority class him with Moses, Zartusht, Gotama, Mohammed, and Swedenborg, as a reformer, but by no means an infallible one. They generally regard the Holy Spirit as an influence, while some agree in rejecting, in whole or in part, the doctrines of man's depravity and moral inability, but in regard to the atonement, they range all the way from a modified conception of Christ's office as a Redeemer and Saviour, to the opinion that his whole function was discharged in his office of teacher, exemplar, or reformer. Very few Unitarians hold to the doctrine of eternal punishment of the wicked, but here again their views vary from those who believe in a protracted period of retribution, to those who hold to a speedy restoration, or those who entertain the dogma that the only retribution for sin is in this life. In regard to the inspiration of the Scriptures, there is a similar diversity of belief. Channing, Andrews, Norton, and the early American Unitarians, like their English and Polish brethren, held to the plenary inspiration of the Scriptures, and some of them wrote ably and eloquently in defence of the doctrine; but the "Advanced Unitarians" of the present day, "do not appeal to the Scriptures as inspired and infallible oracles, but discuss religious questions on grounds of philosophy alone. Regarding the Bible as the most interesting and valuable part of the world's literature, they seek in it illustrations of spiritual laws, but not final statements of moral and religious truth. To some, the Vedas and Shastas of the Hindoos, the Zendavesta, the Koran, and the revelations of Swedenborg, are of nearly equal authenticity and inspiration with the Bible.

Unitarianism can hardly be said to have any distinctive ordinances or sacraments. The churches which first separated from Trinitarian Congregationalism, required baptism both of infants and adults, and especially of the latter, but it had lost its significance with their changed views of the atonement, and now infant baptism is wholly abandoned, and adult baptism only maintained in a few churches on sentimental grounds. The

same may be said of the sacrament of the Lord's Supper. Where practiced, it is only as a means of cultivating the religious life, and not as a sacrament at all. In their church polity, they are Congregationalists, with, perhaps, somewhat more independency than the Orthodox Congregationalists. Some of their churches have adopted a sort of liturgy, and maintain a vesper service of a musical and devotional character. They have, within the past fifteen or twenty years, manifested an increased spirit of propagandism, disseminating Channing's works, and other Unitarian works published by the American Unitarian Association, and conducting some Home and Foreign missionary operations through their denominational organizations. They have given increased attention to the promotion of education, and have maintained among their clergymen that high reputation for elegant belles-lettres attainments, and rhetorical ability, which have characterized them from the first. They have planted Unitarian Societies in most of the large cities throughout the country, and though their congregations are neither numerous nor large, they have collected in them a considerable number of men of fine culture and æsthetic tastes. Still Unitarianism proper can hardly be said to flourish out of New England, hardly, indeed, out of Massachusetts. Its adherents there and elsewhere deserve credit for their active humanitarian efforts. In rescuing vagrant and vicious children from the evil influence to which they are exposed, in caring for the aged and infirm, the sick and homeless, and especially for their efforts in behalf of the sick and wounded soldiers of our late war, in connection with the United States Sanitary Commission, and their earnest loyalty, the Unitarians are deserving of all honor.

The Unitarians have under their control three colleges, viz: Harvard University, Cambridge, Mass.; Antioch College, Yellow Springs, Ohio, and Humboldt College, Humboldt, Iowa. They have also three theological or Divinity Schools; viz: the Cambridge Divinity School, with 5 professors, and 36 students; the Boston School for the Ministry, Boston, with 12 instructors, and 23 students; and the Meadville Theological School, with 8 professors and 29 students. They had also one nearly organized at Chicago, previous to the great fire.

They had, in 1870, five periodicals: two monthlies, "*Old and New*," and the *Monthly*

Religious Magazine; one semi-monthly, the *Sunday School Gazette*, and two weeklies, *The Christian Register*, and *The Liberal Christian*. Their statistics in 1870, were: one National Conference, 347 societies, 396 ministers, of whom 148 were not in the pastorate. These societies represent it is believed, from 30,000 to 40,000 members, and an adherent population of 60,000 to 80,000. The American Unitarian Association, which publishes denominational books and aids Unitarian educational institutions, has an annual income of \$100,000 or over. They have four or five mission stations in India, also aided by this Association. There are Sunday Schools attached to many of the societies, but no general statistics of them are published. In most of the cities there are Young Men's Christian Unions, with libraries and reading rooms attached.

II. UNIVERSALISTS. Though entirely distinct in their origin, and giving special prominence to a dogma which the Unitarians keep partially in the background, there is really very little difference in the doctrinal belief of Unitarians and Universalists. At first they appealed to different classes of society; the Unitarians having among their adherents, especially in Massachusetts, a large proportion of the refined and scholarly class, and their discourses being models of graceful rhetoric, while the Universalists gathered into their congregations very considerable numbers of working men, sharp and ready reasoners, but with no great amount of culture or refinement, and their preachers cultivated the power of rough and ready declaration rather than the graces of oratory. There had been very few, if any, acknowledged Universalists in the American Colonies prior to 1770, though undoubtedly some prominent theologians had rather hoped than believed in the final restoration of those who had died impenitent. In that year, however, John Murray, who had been an English Wesleyan preacher, but had become a convert to Universalist doctrines, as taught by one James Rely, came over to America, and landed in New Jersey. He soon went to Massachusetts and commenced a series of itinerant journeys through the states, preaching his views. At first, he did not make many converts, and it was not until 1779 that the first Universalist Society was organized, in Gloucester, Mass. In 1781, Rev. Elhanan Winchester, a Baptist clergyman of Philadelphia, avowed his belief in the final

restoration of the wicked to happiness and heaven, and organized a church of Restorationists, in that city. From that time the Universalists began to increase, their growth being promoted by the very strong opposition manifested towards them. In 1791, Rev. Hosea Ballou, who had also been a Baptist minister, espoused the views of Murray, and advocated them with great vigor and earnestness. The growth of the denomination has been steady and considerably rapid during the present century. The most full and satisfactory exposition of the doctrines of the Universalists we have ever seen is that given by Rev. T. B. Thayer, one of their clergymen, in the *New American Cyclopædia*, Vol. XV, pp. 834, 835. It is as follows: I. They believe that God is infinite in all his perfections, creating man with the fixed purpose that the existence he was about to bestow should prove a final and everlasting blessing; that foreseeing all the temptations, transgressions, and struggles of man, he shaped his government, laws, and penalties with express reference to these emergencies, and adapted the spiritual forces to the overcoming of all evil; that, being almighty, he can convert and save a world of sinners as easily as he converted and saved Saul of Tarsus, or Matthew the publican, and without any more violation of free agency in one case than in the other. They also believe in the perfection of divine justice, and affirm, on this ground, that God would not impose on finite beings a law infinite in its demands and penalties; but that being perfectly just, he will deal with all men according to their works, whether good or bad.

II. They uniformly reject the doctrine of the Trinity, giving to Christ the second place, and making him subordinate to the Father. They believe that he is gifted with spirit and power above all other intelligences; that he is "God manifest in the flesh," *i. e.* that God has displayed in him the brightness of his glory, and the express image of his person, as in no other being tabernacled in flesh; that he was sent of God to be the Saviour of the world, and that he will actually save it, because God would not offer, nor would Christ accept, a mission which both knew would end in failure; therefore, they say, the work of redemption will be thorough and universal.

III. They believe that man was and is created upright, but liable to sin; that transgression comes not out of any original cor-

ruption of heart, transmitted from Adam; but out of ignorance and unbelief: that all men are formed, as Adam was, in the moral image of God; and that this image though it may be disfigured by sin, can never be wholly lost. Faith and regeneration remove the stains and defilements of sin, and renew or reform the soul in the divine likeness.

IV. They believe the new birth to be that thorough change of heart which takes place when a man, wrought upon by divine grace, forsakes his sins, or turns from his former life of wickedness and indifference, toward God and the Saviour, and is drawn into fellowship with the Holy Spirit, and thus quickened into new spiritual vitality, consecrates himself into a life of active goodness and piety. The new birth is not supernatural, but the result of appointed means suitably improved. The Holy Spirit blesses the use of these means, and moves upon the heart of the sinner, encouraging, comforting, assisting, sanctifying. They do not believe in instantaneous regeneration, though they allow that there may be a turning point in the life of every man when his attention is specially directed to religion. Conversion is only the commencement of religious effort.

V. They teach that salvation is not shelter nor safety, nor escape from present or future punishment. It is inward and spiritual, and not from any outward evil, but deliverance from error, unbelief, sin, the tyranny of the flesh and its hurtful lusts, into the liberty and blessedness of a holy life, and supreme love to God and man. This is an important doctrinal and practical point with Universalists, and is constantly enforced in their preaching and writings. They urge on all to seek salvation, not from the torments of a future hell, but from the present captivity of sin. In reply to the objection that millions die in sin, in pagan ignorance, and unbelief, they answer that no one is wholly saved in this life, but that all men are saved, in a greater or less degree, after death, and assert that the power of Christ over the soul does not cease with the death of the body, but that he continues the work of enlightenment and redemption, till he surrenders the kingdom to the Father, which does not take place till after the resurrection is complete.

VI. The resurrection is not merely a physical, but a moral and spiritual change. It is not only clothing the soul with an incorruptible body, but it is an *anastasis*, a

raising up, an exaltation of the whole being into the power and glory of the heavenly; for 'as we have borne the image of the earthy we shall also bear the image of the heavenly.' It is a change, they say, by which we become as the angels, and are 'children of God, being (or because we are) children of the resurrection.' It must therefore be something more than clothing the soul in a spiritual body. It is, beside this, growth in spiritual strength and power, in knowledge, in holiness, in all the elements and forces of the divine life, until we reach a point of perfectness and blessedness described in the term *heaven*. This resurrection or lifting up of the soul into the glorified life of the angels, is the work of the Lord Jesus Christ. The end of his mediatorial reign, the completion of his saving work, and the final surrender of his kingdom back to God, does not take place till after this *anastasis*, this uplifting of all the dead and living into the 'image of the heavenly,' is completed.

VII. On the subject of rewards and punishments, the Universalist belief is substantially, that holiness, piety, love of God and man, are their own reward, make their own heaven here and hereafter; and that in the nature of things no other reward is possible. If men love God with all their heart, and trust in him, they find, and are satisfied with, the present heaven which love and faith bring with them. They hold the same doctrine respecting punishments; that it is consequential, and not arbitrary—the natural fruits of sin; that it is for restraint, correction, and discipline; and that God loves as truly when he punishes as when he blesses, never inflicting pain in anger, but only because he sees that it is needed, as medicine is, to prevent a greater evil. They affirm that the law is made for the good of man, and, of course, that the penalty cannot be such as to defeat the object of the law. Transgression brings misery, or punishment, which is designed to correct and restore to obedience, because obedience is happiness. They maintain that pain, ordained for its own sake, and perpetuated to all eternity, is proof of infinite malignity; but God, they say, is infinitely beneficent, and therefore all suffering must have a beneficent element in it, all punishments must be temporary, and end in good."

The Universalists are very generally believers in the doctrine of Restoration. They do not deny the punishment of sin beyond

this life, but believe that it will be temporary, and end in a restoration of the entire race to holiness, happiness, and heaven.

The Universalists are paying much attention to their educational institutions. They have now five colleges, viz : Tufts College, Melford, Mass., with 15 professors, and property valued at \$805,000 ; Lombard University, Galesburg, Ill., with 6 professors, and property valued at \$265,000 ; St. Lawrence University, at Canton, N. Y., with 9 professors, and property worth about \$40,000 ; Buchtel College, Akron, Ohio, founded in 1870, with \$60,000 endowment ; and Smithson College, Logansport, Ind., also founded in 1870. They have two divinity schools, both well endowed, one in connection with Tufts College, the other with the St. Lawrence University. They have, also, eight academies, or institutes of high grade, most of them liberally endowed. They have 13 periodicals. Their statistics, in 1870, were : 83 associations, 911 societies, 620 ministers, and a probable membership of their societies of from 90,000 to 100,000, with an adherent population of over 200,000. They have a considerable number of Sunday Schools, but do not give the statistics of them. In 1870-71, they raised a centenary fund in commemoration of Mr. Murray's work in founding Universalist societies, of \$200,000, to be called the Murray Fund, and to be devoted to the aid of theological students, the distribution of Universalist literature, church extension, and the missionary cause.

III. THE HICKSITE OR SECEDING SOCIETY OF FRIENDS IN AMERICA, are Unitarians, in their view of the divinity of Christ. (See VIII, ii.)

IV. "THE CHRISTIAN CONNECTION," at the West, have affiliated with the Unitarians and a large portion of them are believed to hold Unitarian views in regard to the divinity of Christ. In the Eastern and Middle States, they are generally Trinitarians. (See II, vii.)

XI. THE NEW JERUSALEM CHURCH, NEW CHURCH, OR SWEDENBORGIAN.

THIS denomination refuse to be called a sect of the Christian church, claiming to be entirely distinct from any branch of the Christian church and to belong to a new dispensation as fully and as far removed from the Christian dispensation as that was

from the Jewish. They insist, indeed, that the Christian dispensation passed away and came to an end in 1757, and that they are the new dispensation, the New Jerusalem, which has come down from God out of heaven to take the place. The first congregation of the New Jerusalem Church was formally organized in London in 1783, by Robert Hindmarsh, a printer in Clerkenwell, who was chosen by lot, to baptize and ordain his comrades in the ministry. Few if any societies were organized in the United States before 1820, although there were undoubtedly some believers in the New Church doctrines at an earlier date. Their doctrines are those put forth by Emanuel Swedenborg, a Swedish nobleman, statesman and philosopher (1688-1772), a man of extensive attainments in science and of most pure and exemplary life, who, after publishing many scientific and philosophical works, believed that he was favored with visions and revelations from the spiritual world, and in 1745 at the age of 57 relinquished all office and gave himself to communion with the invisible world and to recording his visions and the doctrines he had been therein taught, for the benefit of those who should come after him. No one believes Swedenborg to have been an imposter. Everything in his circumstances and character refutes such a supposition ; but there are many who regard him as suffering under hallucinations and as being of unsound mind. He lived to be nearly 85 years of age, and in the last twenty-seven years of his life wrote many books, all on topics connected with his supposed revelation. Some of these books (all written originally in Latin,) contain passages of great beauty and interest ; but the greater part have a mystical character, and are not specially attractive except to those who profess to comprehend them by a spiritual insight. We have not the space for anything like a full analysis of the doctrines put forth in these numerous volumes. His doctrines seem to be based on a theory or science of correspondences, which he believed himself to have rediscovered after it had been lost for ages. The law of correspondence is universal ; the natural world is a repetition of the spiritual world, and the spiritual world of the invisible mental world. Unseen evil is manifested in things hurtful and ugly, unseen good in things useful and beautiful. Man is a microcosm, or little world ; nature is man in diffusion ; all things in nature—fire,

air, earth, and water, every beast, bird, fish, insect, and reptile, every tree, herb, fruit, and flower—represent and express unseen things in the mind of man. The scriptures are written according to correspondences, and by aid of the science their mysteries are unlocked. This mystical interpretation gives us to understand that the early chapters of Genesis are not to be received in any historic sense. Adam signifies the most ancient church, and the flood its dissolution; Noah an ancient church which, falling into idolatry, was superseded by the Jewish. The spiritual sense pervades the scriptures with the exception of Ruth, I. and II. Chronicles, Ezra, Nehemiah, Esther, Job, Proverbs, Ecclesiastes, the Song of Solomon, the Acts of the Apostles, and the Epistles. These are all good books but not possessing the internal or spiritual sense. They are not inspired and consequently not the Word. By reason of its symbolism of the inward sense the letter of scripture (with the above exception) is holy in every jot and tittle, and has been preserved in immaculate perfection, since the hour of its divine dictation. By this doctrine of correspondences also the constitution of heaven and hell is revealed. There are three heavens, consisting of three orders of angels, severally distinguished for love, wisdom, and obedience. All angels have lived on earth; none were created such. They are men and women in every respect, the spiritual life corresponding to the natural; they marry and live in societies in cities and countries just as in the world but in happiness and glory ineffable. To the unmarried will be given the honor of caring for the little ones, and their performance of this duty will crown them with glory. All in whom love to God and man is the ruling principle, go to heaven at death. As there are three heavens there are three hells, and every angelic society has an infernal counterpart. Hell, as a whole, is called the Devil and Satan; there is no individual bearing that name. All in whom self-love is the ruling motive go to hell. There is no resurrection of the earthly body. Every one passes to the final lot at death, some making a short sojourn in an intermediate state, designated the World of Spirits, where the good are cured of their superficial infirmities and intellectual mistakes, and where the evil reject all their pretences to good. The grand and distinctive principle of Swedenborgian theology is, however, the doc-

trine of life. God, it is maintained, alone lives. Creation is dead. Man is dead and then apparent life is the Divine presence. God is everywhere the same. It appears as if He were different in one man and in another; but this is a fallacy. The difference is in the recipients; by one He is not received in the same degree as another. A man more adequately manifests God than a tree; that is the only distinction. The life of devils is God's presence perverted in disorderly forms. "All things and each of them to the very uttermost, exert and subsist instantly from God. If the connection of anything with Him were broken for a moment it would instantly vanish; for existence is perpetual subsistence, and preservation perpetual creation." By this law of life is explained man's self-consciousness, freedom, and personality. All these sensations are communicated from God to man. He dwells in man so cordially, that He gives him to feel that he lives of himself, even as He lives.

The Swedenborgian doctrine of the Trinity and the Divinity of Christ is thus enunciated by his followers, in language derived from his writings: "That Jehovah God, the creator, and preserver of heaven and earth is love itself, and wisdom itself, or good itself, and truth itself; that He is one both in essence and in person, in whom nevertheless is the divine trinity of Father, Son, and Holy Spirit, which are the essential divinity, the divine humanity, and the divine proceeding, answering to the soul, the body, and the operative energy in man; and that the Lord and Saviour Jesus Christ is that God. That Jehovah, God Himself, descended from Heaven as divine truth, which is the word, and took upon him human nature, for the purpose of removing from man the powers of hell, and restoring to order all things in the spiritual world, and all things in the church, that he removed from men the powers of hell, by combats against and victories over them, in which consisted the great work of redemption; that by the same acts which were his temptations, the last of which was the passion of the cross, he united in his humanity, divine truth to divine good, or divine wisdom to divine love, and so returned into his divinity in which he was from eternity together with and in his glorified humanity, whence he forever keeps the infernal powers in subjection to himself, and that all who believe in him with the under-

standing from the heart and live accordingly will be saved. The New Church observes the ordinances of baptism and the Lord's supper, but gives them a mystical significance. The Christian church, as established by Jesus himself, came to an end, Swedenborg says, in the middle of the last century, and in one of his visions he relates having witnessed the last judgment effected upon it in the world of spirits in 1757. Then commenced the new dispensation, signified by the New Jerusalem in the Revelation of which he was to be the precursor and revealer. He made no claim to be a leader or divinely inspired person, but only a seer. He did not himself attempt to establish a church, though it was his early expectation that such a church would be raised up among some of the gentile or heathen nations. But his followers have been active propagandists, and though they may have believed, as he did, that the Christian church was dead and at an end, they have to a large extent remained in its communions, and have propagated their views among its members, while retaining their connection with it. A portion have, it is true, come out and organized separate societies or churches, but the New Church has been far more conspicuous for intellectual ability, both among its secret adherents and its avowed members, than for members. After fifty years of really zealous effort, they report only 65 ministers, 78 societies, and at the utmost not more than 4,000 avowed members, with an adherent population of perhaps 8,000. They have an efficient publishing association, with a capital of about \$15,000; a tract society which publishes 30,000 or 40,000 tracts per year; three periodicals, a weekly, a monthly, and a child's paper, a theological school at Waltham, Mass; three church schools—one of them liberally endowed, a missionary society, and several Sunday School Unions. It has also a "New Church Union" with a free library having headquarters in Boston.

XII. MORMONS, OR CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS.

I. THE MORMONS under the control of Brigham Young. We have neither time nor space to go into the *history* of this imposture, the most conspicuous one of modern times; nor is it needful; for the story of the golden plates, and of Solomon Spalding's manuscript, of the successive efforts at organiza-

tion in Manchester, N. Y.; Kirtland, Ohio; Jackson and Clay counties, Missouri; Nauvoo, Illinois; the impositions, threats, and swindles of the Mormon leaders, their expulsion from Missouri, their death at the hands of a mob at Carthage, Illinois, the pilgrimage westward, the wintering in Iowa, the final arrival in 1847 and 1848, at Salt Lake, the founding of Great Salt Lake City, the building of the Tabernacle, the open practice and boast of polygamy, their collisions with the United States government, their Danite band, their murders and outrages, and their present condition, have all been told so many times as to be familiar to all. We will therefore only state their doctrines and practices according to their own authorized manuals. They believe that there are many gods and that eminent saints may in time become gods, and rise one above another in power and glory to infinity. Joseph Smith is the God of this generation. Above him in power and glory is Jesus Christ, who was the offspring of the material union on the plains of Palestine of a God with the Virgin Mary, the latter being duly married after betrothal by the angel Gabriel. Yet Christ had had a previous existence and had made the universe out of unformed chaotic matter as old as God. The God whom they describe as the father of Jesus Christ, had once been a man and still retains a human form, though he is so advanced in intelligence and power that he may now be called, comparatively speaking, perfect, infinite, &c. The Holy Spirit they believe to be also a material being and once human. Above these is an older trinity composed of Jehovah Elohim, and Michael or Adam, the latter being described as the god or superior of Christ, and below, beneath, and associated with these are gods many and lords many. Their whole Theogony seems to be a most unintelligible jumble, mingling Brahminism, Buddhism, and every other form of belief. The *second* article of their creed affirms that men will be punished for their own sins and not for Adam's transgressions. The *third* article states that through the atonement of Christ all mankind may be saved by obedience to the laws and ordinances of the gospel. The *fourth* defines their ordinances to be: Faith in the Lord Jesus, which is expounded as including obedience to the ten commandments, and to the Word of Wisdom revealed to Joseph Smith in 1833; 2. Repentance; 3. Baptism, which is administered

by immersion, only to children at eight years of age, and also to adults who had not been previously baptized. They also baptize for the dead, asserting that at the resurrection all the persons for whom a man has been baptized will be added to his family; 4. Imposition of hands to confer the gift of the Holy Spirit; 5. The Lord's Supper, administered to the recipients kneeling; they use water instead of wine, being averse to the use of the latter, and receive the sacrament every week. The *fifth* article declares that men must be called to the work of God by inspiration. The *sixth* that the same organization must now exist that existed in the primitive church. The *seventh*, that miraculous gifts—discerning of spirits, prophecy, revelations, visions, healing, speaking with tongues, &c.,—have not ceased. Among Smith's and Brigham Young's speculations in the way of discerning of spirits, one was that the soul of man was not created but had existed from all eternity, equal in duration to God. Another of these revelations was that of the transmigration of souls, that rebellious spirits (of men) would descend into brute tabernacles, till they yielded to the law of the everlasting gospel. The *eighth* article affirms that the Word of God is recorded not only in the Bible and the Book of Mormon, but in all other good books. The contradictions which exist in the Bible and other books can be very easily removed by revelations to any of the Mormon leaders or any other inspired prophets. Joseph Smith, it is said, left an "inspired translation" of the whole Bible in manuscript, but none of the leaders since have thought it worth their while to publish it. The *ninth* article expresses a belief in all that God has revealed, is revealing, or will yet reveal. The *tenth* affirms the literal gathering of Israel, the restoration of the Ten Tribes (whom they believe to be the American Indians), the establishment, of the New Zion on the Western Continent (they generally insist that this will be in Jackson county, Missouri), the millennial reign of Christ on earth, with all his holy prophets and demigods (of whom Joseph Smith will be most conspicuous), and the transformation of earth into a paradise. The *eleventh* article maintains "the literal resurrection of the body,—to flesh and bone, but not blood—blood being the principle of mortality." The *twelfth* article asserts the absolute liberty of private judgment in matters of religion. The

thirteenth declares it to be the duty of the saints and all others to be subject to the powers that be, whether monarchical or republican; and the *fourteenth* and last is as follows: "We believe in being honest, true, chaste, temperate, benevolent, virtuous, and upright; and in doing good to all men; also that an idle or lazy person cannot be a Christian, neither have salvation." The leaders, however, by virtue of the revelations they receive, can, at will, exempt themselves from the obligation of any of these rules or obligations, and most of them are notoriously profane, unchaste, and accessories to the grossest frauds and murders, if they do not commit them in person.

Their most remarkable social peculiarity is the practice of polygamy. Among the early revelations published by Smith, one was the strict enforcement of both monogamy and chastity; but about 1838 he became notoriously licentious and as after a time his wife began to complain of his amours, he had in 1843 a special revelation directing the practice of polygamy not only in his own case, but in that of the other saints. This was denied by the leaders for some years, but in 1852 they openly avowed polygamy as one of their doctrines and referred to this revelation as their authority. It is now very generally practised in Utah; Young himself having, it is said, sixty or more wives. For many years the Mormon leaders have defied the United States government and have ruled the territory of Utah according to their own views, driving out and often murdering United States officers and citizens who attempted to enforce national laws; but the opening of the territory by the passage of the Union Pacific and other railways through it, and the development of the large mining interests there, have brought in so large a population, who are not Mormons, that there is a prospect that the laws may be enforced there without serious difficulty. By the laws of the United States, as well as by common law, polygamy is a crime, and actions have recently been commenced against Brigham Young, Daniel C. Wells, and other of the Mormon leaders for adultery, and for being accessories to the murder of some men whom they had caused to be put out of the way. Young has left Salt Lake City, and it is generally believed, has fled from the territory, and some of the others have given bail, while one or two have been convicted of the minor offense:

The Mormons have habitually greatly overrated their numbers. They claimed early in 1870 a Mormon population in Utah of 150,000, while the United States census of 1870 gave the entire population of the territory as only 86,786, of whom not less than 17,000 are known not to be Mormons, aside from a considerable number of seceders from the authority of Young. Elsewhere in the United States there may be (including the seceding Mormons) seven or eight thousand; and in foreign countries perhaps 50,000 to 60,000. They claim 100,000 on the eastern continent; but they have no such following. Their hierarchy is of two kinds, the Melchizedec and the Aaronic priesthood. To the former belong the First Presidency of three, of which Young is the chief; the twelve apostles, the seventies, the patriarchs, the high priests and the elders. To the Aaronic priesthood belong the bishops, of whom in all there are 240, the priests, teachers, and deacons. Tithes are rigidly exacted from the Mormon believers to be applied to the support of worship, &c., but no inconsiderable portion finds its way into the capacious purse of Brigham Young, who by adroit management has become very wealthy, his property amounting to many millions, and being largely invested abroad.

There have been for the past twenty-five years a body of Mormons who did not go with the others to Utah, who did not recognize Brigham Young as their chief, nor practice polygamy. They have had a colony and settlement for some years in northwestern Iowa, on the borders of Dakota, and have had as their spiritual chiefs, *Emma Smith*, the widow of Joseph Smith, and of late years *Joseph Smith, Jr.* They have about 5,000 adherents, and the Mormons of Utah are very hostile to them. Of late Joseph Smith, Jr. has visited Utah, and a considerable number of Mormons who were disaffected toward Young, have recognized him as their leader. Others of the disaffected, who repudiate Young's authority and teachings though not yet willing to abandon polygamy, have followed a man named Godbe, and are known as *Godbeites*. Both these seceding organizations are bitterly denounced by Young and the Mormon hierarchy.

XIII. ISRAELITES OR JEWS.

I. THE ORTHODOX ISRAELITES, OR JEWS.

This is no place for a history of the ancient

people of God in all their dispersions, wanderings, and persecutions; we can only give very briefly, their history as a religious denomination in the United States. The first Jews who emigrated to North America, it is believed, came to the then Dutch colony of New Amsterdam, in 1660. Although, from the first, they have always enjoyed complete religious liberty here, and have often been called to positions of high honor in society and under our government, yet the number of Jewish emigrants to the United States was, for a hundred and fifty years from their first coming, very small, and in 1820 they certainly did not exceed 15,000 in our entire territory. Since that time they have come in somewhat larger numbers, attracted by the opportunities offered them for successful trade and financial operations. After the revolutions of 1848, on the continent of Europe, many of those, who had participated in those uprisings, came here and have since been some of our most valued citizens. It is difficult to ascertain definitely how many are now residents in the United States; the Board of Delegates of American Israelites, in 1868 reported 200 congregations in the country. If these averaged 100 male members (a large estimate), the adherent population could not much have exceeded 40,000; but there are besides these, the Reformed Jews, a considerable number who have embraced Christianity, and many who in this country do not connect themselves with any religious organization. We are inclined to believe that 75,000 is a large estimate of the actual Jewish population of the United States, though it has been reckoned as high as 200,000. They have worship in their synagogues on the Jewish Sabbath (Saturday), with reading and expounding of the law, chanting of psalms, etc. The reading is usually in Hebrew or Aramaic, although many Jews do not understand the Hebrew well, but the explanations and discourses are in English, or in the vernacular of the country from which they have come. Many of their rabbis are men of extensive learning, and specially versed in Oriental and linguistic science. It is, of course, understood that the Jew does not recognize Christ in any religious sense, and is a Deist, rather than a Socinian or Unitarian. The following abstract of their doctrinal creed, compiled from the Thirteen Articles of Maimonides exhibits, briefly, their views on religious subjects: "1. They believe that God is the

Creator and Governor of all creatures, and that he alone has made, does make, and will make all things. 2. They believe that He is only one, in unity to which there is no resemblance, and that he alone has been, is, and will be their God. 3. They believe that the Creator is not corporeal, not to be comprehended by an understanding capable of comprehending only what is corporeal; and that there is nothing like him in the universe. 4. They believe that He is the First and the Last. 5. They believe that He is the only object of adoration, and that no other being whatever, ought to be worshiped. 6. They believe that all the words of the prophets are true. 7. They believe that all the prophecies of Moses, their master, are true, and that he was the father of all the wise men, as well of those who went before him, as of those who succeeded him. 8. They believe that the whole law which they have in their hand at this day, was delivered by Moses. 9. They believe that this law will never be changed, and that no other law will ever be given by the Creator. 10. They believe that God knows all the actions of men, and all their thoughts; as it is said: 'He fashioneth all the hearts of men, and understandeth all their works.' 11. They believe that God rewards those who observe his commands, and punishes those who transgress them. 12. They believe that the Messiah will come, and, though he delays, they will always expect him till He comes. 13. They believe that the dead will be restored to life when it shall be ordained by the decree of the Creator.

The Jews have not been very active in educational matters, but have several free schools of high grade, and, at Philadelphia, Maimonides College, founded in 1867, which though having a full course, and able instructors, is not well endowed. In matters of public charity, the founding of hospitals, asylums for orphans, the aged, and the widow, and the establishment of public libraries, and museums of art, they deserve very high praise. These institutions, and their gifts to them have not, in any case, been confined to their own people, but have been opened freely to all, and some of their liberal givers have won for themselves undying fame by their large handed charity. It is worthy of note that they provide always for their own poor. They have three or four well conducted periodicals.

II. THE REFORMED OR PROGRESSIVE

ISRAELITES. This organization, which has a Rabbinical Conference, which meets annually, and has synagogues in the principal cities, while not disposed to relinquish their Jewish birthright and privileges, yet deem some changes necessitated, by the progress of the world, in their ancient faith. They do not look for the coming of a temporal Messiah, or a return to Palestine; they believe in having their exercises in the synagogues in the vernacular. They hold to the immortality of the soul, but not to the resurrection of the body; to God's grace and justice to pardon and bless the being created in his image, and not to expiatory rites and sacrifices. We have no means of estimating their numbers.

Efforts have been made, and with considerable success, by several of the Protestant denominations for the conversion of the Jews to Christianity. There are several congregations of these converted Israelites, and a still larger number who have connected themselves, as individuals, with other Christian churches. A considerable number of Jews said to be mainly from Germany, Poland, and Portugal, have, on coming to the United States, abandoned all religious worship and faith, and given themselves up wholly to the worship of mammon.

XIV. SPIRITUALISTS.

We can hardly call the Spiritualists a religious denomination, since its professed adherents belong to almost all denominations, and many of them to none, and their single bond of union is in their belief that somehow, and in some way, they hold intercourse with the spirits of the departed. That this belief is a delusion seems to be demonstrated by the most incontestable evidence; yet very many cling to it with the utmost tenacity. The Spiritualists, and especially the so-called "spiritual mediums," may be divided into several classes. Among these are: 1. Charlatans and impostors, who deliberately profess to hold communication with the spirit world, knowing that they are guilty of a gross and fraudulent deception, but doing so for the sake of gain. This class is numerous; to it belong most of the fortune-tellers and necromancers, the greater part (perhaps we should say all) of the healing mediums, clairvoyant doctors, and the like, the exhibiting mediums, rappers, table-tippers, &c., &c. 2. The self-deluded, who,

possessing a certain amount of magnetic, odyllic or reflex-nervous power, really suppose themselves to be in communication with the spirits, when they are only reproducing their own thoughts and conjectures or those of persons about them and with whom they are *en rapport*. 3. Genuine clairvoyants, very few in number, but really endowed with a greater or less degree of the clairvoyant or seer faculty, but mistaken in imputing their visions to a different source from that from which they really come. The supposed conversations held by these persons with angelic intelligence, or the spirits of the departed who were eminent for intellectual or moral power in this life, all give evidence, which whoso runs may read, that they are "of the earth, earthy." Not one of these messages professedly from the spiritworld, however exalted in intellect in this life were the persons from whom they purport to have come, has ever risen above the dead level of bald common place, and could the persons to whom they were attributed have come back to earth and read them, they would have repudiated them most indignantly. Much the same may be said of the professed revelations of the spiritual world by these professed seers. We have read many of them and have found them invariably sensuous in their descriptions, and giving ample evidence of having been borrowed without being improved from the Koran, the oriental fables, or the word painting of Moore, Byron, Southey, Beckford, or Johnson, and sometimes, perhaps, from the hallucinations of Emanuel Swedenborg. Too much of the flesh clings to the seer to make these visions in any respect representative of that glorious spiritual state which the natural eye hath not seen, nor can see; of those experiences, which are only discerned by the spiritual man when unrobed from the garments of flesh, and made pure even as God is pure.

Still this great delusion has its thousands of votaries. Beginning in this country about 1843 with some manifestations of power as a healing medium on the part of a lad of seventeen, named Andrew Jackson Davis, at Poughkeepsie; they were gradually developed into a high degree of clairvoyance on his part, which resulted in his dictating from 1846 to the present time numerous books professing to give revelations of the condition of the various spheres which he alleged envelope our earth, and communications with the spirits which inhabited them;

descriptions of the climate, scenery and people of the various planetary bodies of the solar system, and eventually a theological system, with its pantheon of heroes and demigods which he professed to have received from the highest spiritual intelligences. That some portions of this system were rather the results of earthly study, than of heavenly inspiration, was evident to those who knew Mr. Davis's habits of study and preparation for his books. These numerous volumes have, however, had a very considerable sale, and though it would be difficult to say how many Spiritualists believed them either wholly or in part, yet they have unquestionably exerted considerable influence in forming the Spiritualist theology. Many Spiritualists repudiate them, wholly; others go far beyond them, to a gross and blasphemous infidelity. While Mr. Davis was beginning to dictate his revelations, another development of the Spiritualist mania appeared in Rochester, where a Mrs. Fox and her two young daughter's first made spirit-rapping profitable. This and table-tipping and table dancing soon became popular and lucrative exercises, and presently it was found that the spirits could spell (not always correctly) by the aid of an alphabet card. As time passed, their education improved till by the hand of a medium (their unconscious instrument, it was said) they wrote all manner of platitudes in prose and rhyme, though quite as often without sense as with it. Still later, they practised a species of phonographic writing which expedited matters for them, though not always for the unhappy mediums, who found great difficulty in putting it into readable English. Gymnastic and legerdemain feats followed, and though most of these were exposed, yet they made their impression on the minds of the gaping multitude. An adventurer named D. D. Home or Hume was the most adroit performer of these alleged Spiritualistic feats in Europe, and succeeded in deceiving many eminent though unphilosophic minds. The delusion reached its culminating point in 1858 or 1859, and has since that time been gradually waning. Both the Shakers and the followers of Swedenborg had at one time great expectations from it, of large increase to their numbers; but both have been greatly disappointed. Very many who were once deluded by it have long since abandoned it and now wonder that they could have been so grievously deceived; others not fairly col-

vinced of the delusion still entertain doubts, and will eventually shake it off; while of those who hold firmly to it still, some have become insane, some profess to derive comfort from their communication in hours of sorrow with the dear departed, and others have plunged into the abyss of infidelity or are on the high road thither.

The Spiritualists in 1858 and 1859 made the most extravagant statements in regard to their numbers; statements which must at that time have been conspicuously inexact, and are now too absurd for any one to believe. In the "Spiritual Register" for 1859 it is stated that the number of actual Spiritualists in America is 1,500,000; of those who have more or less faith in the doctrine, but do not openly espouse it, 4,000,000; public advocates, 1,000; mediums, public and private, 40,000; places for public meetings, 1,000; books and pamphlets, 500; periodicals, 30. If most of these figures had been divided by ten the quotients would have been nearer the truth at that time. At present, the number of periodicals (of which only two or three have a large circulation) is ten, the number of public advocates of Spiritualism not over 50, and the meetings mentioned about the same or possibly 75. The number of mediums of all sorts, we could not undertake to estimate; there must be several thousands; though some have unfortunately been sent to State Prison recently, and some others, who have been using their art, to aid them in their nefarious business as procuresses, ought to be. It would be difficult to find 150,000 persons who would avow themselves, to-day, Spiritualists; and equally difficult to find 200,000 more who would acknowledge any leanings in that direction. The number of books and pamphlets published *pro* and *con* may reach 500, indeed, considering the great number issued by Mr. A. J. Davis and Mr. S. B. Brittan, we think they probably will; but the sale of Mr. Davis's books, the most popular of all this class of literature, has not averaged over 20,000 copies of each.

XV. FREE THINKERS, OR ATHEISTS, DEISTS, RATIONALISTS, &c.

THE various forms of unbelief cannot fairly be called religious since they are rather the negative of all religion; nor can they be classified or numbered, since they are found under so many different names and

forms and commingled with so many other doctrines and notions; yet it is true that they include many thousands mostly from three classes: 1. Speculative philosophers, whose learning is rather superficial than profound, and who from the desire to throw off control, which is natural to the depraved heart, seek to find arguments against the authenticity and inspiration of the scriptures, against a ruling and controlling Providence, and against any plan of salvation which admits the depravity of human nature. They draw their arguments from any and every source which they deem available; at one time they deride miracles as inconsistent with reason; at another they parade geological discoveries as proving the falsity of the Sacred Record; then they are very sure that they have discovered that man has lived upon the earth 800,000 or a million of years, and that he was developed from a monad or a monkey; if driven from these positions, they find fault with the numbers of the Bible, its genealogical records, its narratives of events; the slightest apparent discrepancy is magnified, and they either conclude the sacred book a tissue of fables, a book of riddles, metaphors, and conundrums, or a series of myths. Rout them from one class of arguments, and they fly to another, often in exact contradiction of what they had previously maintained; and in default of any ground of argument they will fall to abusing and cursing the life, ministry, and work of the Divine Redeemer, using the coarsest ribaldry, though previously given to only dainty phrases; thus demonstrating that it is the enmity of the heart against God which is at the bottom of all their unbelief. 2. A larger class than the preceding is composed of working men, mechanics, who in a crude and rough way do a good deal of thinking, but being soured by the neglect of their intellectual tastes and abilities, which they believe the educated class manifest, and having the idea that they are displaying a great deal of intellectual independence by avowing themselves free thinkers, plunge boldly into the discussion of questions which they are disqualified, for the want of both early training and positive knowledge, from handling. Without being conscious of it they are merely the echoes and mouth pieces of abler but worse men, uttering the falsehood, which their leaders know to be such, but which these poor men believe merely on their assertion. With them, too, the desire that

these views may be true, that they may be thereby freed from responsibility and the goadings of conscience, has much to do with their earnestness in endeavoring to believe them. 3. Another and still larger class of unbelievers, we can hardly call them free thinkers, for they do very little thinking of any sort, are the men and women utterly brutalized by a vicious life, who are without hope and without God in the world, and who stolidly conclude that no other life, if there is another, can be worse than the present; and that somehow they will be better off after death, since, as they express it, they have had no show or chance here. These need almost a new creation to bring them up to the plane of morally accountable beings. They constitute the dangerous classes of our large cities, the material of mobs, the gangs of thieves, dead rabbits, shoulder hitters, prize fighters, burglars, and if women, the shop lifters, prostitutes, and degraded women of the slums and back alleys of the great cities. We might name as recruits in this army of unbelief, those who under the influence of the worst phases of spiritualism have lost all faith in humanity, and those in higher circles of society who departing from their early training in sound doctrine have wandered and floundered through the mazes of German rationalism, transcendentalism, and at last merged in Pantheism or utter unbelief.

A very considerable portion of the educated German emigrants, and the English workmen who migrate to this country are Freethinkers or infidels, and in many of our large cities as well as in the newer towns and settlements at the West they have organized Infidel or Liberal clubs, and seek to bring others into their way of thinking. They have united and brought out their full strength on several occasions in the effort to have all Sabbath laws abrogated in several of the Western cities. In some of the new settlements of the West they have been so largely in the majority that they have prohibited all effort for religious worship or Sabbath observance. Their periodicals vary in character according to the class whom they address. Some are decorous in tone but aim at subverting Christianity by appeals to reason and philosophy; others are ribald and blasphemous, and denounce incessantly all Christian organizations, and Christian men. Those conducted by foreigners and in German or French, are generally

revolutionary in their character, and have much to say of priestcraft and restrictions upon the rights of the people. There are in all fifteen or twenty of these papers, but they give no indications of the number of the Freethinking class, since many of them do not read anything. There are no means of estimating with any approximation to accuracy their actual numbers. Men who have made religious statistics a study, and with equal opportunities of observations differ as widely as between 250,000 and 1,000,000; and the larger number is quite as likely to be correct as the smaller.

There are a number of small and minor sects which did not properly come under the classification we have adopted. With a brief notice of them we close this sketch of RELIGIOUS DENOMINATIONS IN THE UNITED STATES.

I. ADVENTISTS, a recent sect of Millinarians, owing its origin to William Miller of Vermont, from whom they are often called Millerites. He commenced his public teachings in 1833 and predicted the second advent of Christ in 1843. Among his disciples was one Joshua V. Himes who had been a Campbellite preacher and who surpassed Miller in earnestness and energy. After the failure of their first prediction in 1843, others were made but the adherents of the sect fell off. Himes however continued to advocate his doctrine in the *Advent Herald* and from the pulpit, and succeeded in drawing around him a considerable number of followers, of whom, since Miller's death, he has been the leader and apostle. He is said to be inclined to Unitarian views in regard to the divinity of Christ, and with most of his followers to hold that the wicked will be annihilated at the second coming of Christ. There are no definite statistics of the numbers of the Adventists, but they are estimated at about 20,000. Their other views are generally those of the Evangelical churches, though inclining somewhat to Methodism; but they have no regular creed or form of discipline.

II. ANNIHILATIONISTS. The doctrine of the Annihilation of the Wicked is not confined to Adventists. Nearly forty years ago it was defended by Rev. Henry Grew, and since that time Dr. McCulloh of Baltimore, George Storrs (an Adventist) and Rev. C. F. Hudson have published works advocating the doctrine. They have not a

large following aside from the Adventists, and most of those who believe in the doctrine remain members of Evangelical churches.

III. CATHOLIC APOSTOLIC CHURCH or IRVINGITES, a small denomination which originated with the teachings of Rev. Edward Irving in London about 1830, but afterwards considerably modified through the influence of Mr. Henry Drummond, a member of Mr. Irving's congregation. They hold to the present existence in the Christian Church of the Charisms or gifts mentioned by Paul in Cor. xii. 27-31, Eph. iv. 11-13, 1 Thess. v. 19, 20, viz. healing, speaking with tongues, prophesying, &c. In their other doctrines they agree generally with the Evangelical churches though they make confirmation or sealing by the laying on of hands of the apostles a third sacrament or ordinance. In organization and polity, however, they differ from most of the churches in having four orders of the ministry, apostles, prophets, evangelists, and angels or chief pastors, and under the latter, a fourfold service of elders and deacons, together with under deacons and deaconesses. The deacons, under deacons, and deaconesses are ordained by the angel or chief pastor, all the superior ministers or servants by the apostles who are not themselves ordained but called of the Holy Spirit to their work. In their worship they use incense-lights on the altar, the full catalogue of priestly vestments, and a very imposing and impressive ritual. They celebrate the Eucharist, every Lord's day, as well as on other occasions, and receive tithes during the service. They also have auricular confession of sin with absolutions and prayers in fourfold form. At their meetings for extemporaneous prayer and confession they encourage the speaking with tongues and prophesying. The number of congregations of the Catholic Apostolic Church in the United States is small, not more than eight or ten in all.

IV. BRETHREN or PLYMOUTH BRETHREN, a denomination which originated about 1830 under the leadership of Rev. John Darby, an English barrister of high social position, who became a clergyman of the Church of England and devoted himself to missionary labors in Ireland for several years, but being conscientiously opposed to the doctrine of Apostolical Succession he left that church and proceeded to found one which recognized no distinctive ministry

and no formal organization. Mr. Darby was a Millenarian and thought it the duty of all true Christians to gather in small bands and pray, labor, and wait for the speedy second coming of Christ. The Plymouth Brethren recognize no other title except that of Brethren or Christians; they are Calvinistic (thoroughly so) in doctrinal belief; but believe that all the Lord's children are priests and kings in his service and that any one of them who feels that he is called to the work has a right to preach or to administer ordinances. They permit no licensure or ordination, and all preaching is voluntary and without salary or compensation. They baptize adults on a profession of faith (usually immersing them) though they do not consider this indispensable to membership. They do not allow infant baptism. They exclude persons from participating in the Lord's Supper, who have been guilty of gross sins. The Lord's Supper is celebrated every Sabbath morning. In the afternoon or evening of the Lord's day they preach to and pray for such as are not converted. They believe in the efficacy of prayer for special blessings temporal as well as spiritual, and one of the Brethren, George Müller has maintained an extensive Orphan Asylum and large missionary enterprises at Bristol for many years, solely by praying for the needed funds, which as they came in were most judiciously expended. The denomination has had a rapid growth in England and on the continent, and numbers many eminent men among its adherents. In this country they have a considerable number of congregations, but are very reticent concerning their increase and growth.

V. SANDEMANIANS or GLASSITES. This denomination, which a hundred years ago was quite numerous is now nearly extinct. It derives its name from Rev. Robert Sandeman, who was not, however, its real founder, his father-in-law, Rev. John Glass of Dundee, having originated the sect. Mr. Sandeman, after preaching their doctrines for twenty years or more in Scotland, emigrated to the United States in 1764, and settled at Danbury, Connecticut, where he died in 1771, having established several Sandemanian churches in Connecticut and Massachusetts. Their distinguishing doctrines are: That faith is a simple intellectual assent to the teachings and divinity of Christ; that all mystical or double inter-

pretation of the scriptures is to be rejected; that none of their members must take part in any games of chance; that they are to abstain strictly from all blood and "things strangled;" that all collegiate training for the ministry is wrong; that no prayers should be made at funerals; that weekly love feasts in which all the members of the Church should dine together should be observed every Sabbath day; and the kiss of brotherhood should pass between all their members, male and female, at their solemn meetings; and that a plurality of elders is necessary in the church, two at least being required for all acts of discipline and the administration of ordinances and ritual. The ordinance of feet-washing originally practised by the sect has been discontinued. There are not more than two or three congregations of Sandemanians now existing in the United States.

VI. CHURCH OF THE MESSIAH, a sect founded in Maine in 1863 by a person named Adams, who had previously been a Mormon elder. He claimed to have visions and special inspirations. Among the points of the new faith was, that its members were of the tribe of Ephraim and that the time had come for them to return to the land of their fathers, where the Messiah was to set up the throne of David. In 1866, 156 of the members of the sect sailed from Maine for Palestine under the leadership of Adams and landed at Jaffa, where through the efforts of the American Vice-Consul, land had been procured for them and where they erected houses and a hotel. Dissatisfaction soon occurred. Adams was accused of mismanagement, and through the kind offices of the United States government a considerable number returned in 1867, and the remainder in 1868. The sect is probably extinct.

VII. PERFECTIONISTS. I. FREE LOVERS, BIBLE COMMUNISTS or PERFECTIONISTS, a small American sect founded about 1840 by John H. Noyes, in Putney, Vermont, but removed subsequently to Oneida, New York, where it is now known as the Oneida Community. Branches of it are also established under the same regulations at Wallingford and Brooklyn, Connecticut. This organization is a singular medley of Biblical doctrine and unholy practice. They profess to believe that a reconciliation to God is necessary for salvation, that this is accomplished through faith which is simply

an intellectual belief, and that confessing this belief the man's sins are immediately washed away, and thenceforth he is above and beyond all law, being a law unto himself; though in practice he surrenders a portion of this liberty to the family or Community in which he lives. They hold to a community of goods, community of women, or as they term it, a complex marriage; no legal marriage being considered binding and the parties to it in the community being at liberty to make new selections at will, their liberty, however, being somewhat abridged by the necessity of making their proposals through a third party and their being subject to the approval of the family and in accordance with what they pronounce physiological laws. The Community or Communities now number in all about 600 members, that at Oneida having 300. They have prospered financially, having attained large wealth by their manufactures and agricultural productions. They are said to be harmonious and contented. The men dress like the citizens of the adjacent towns, but the women have adopted a sort of Bloomer costume and wear their hair short. The influence of these Communities can only be evil on the society around them. There are several other communities in various parts of the United States, practising a community of goods but not of wives. We have already described the Shaker Communities, which have all prospered; but there are others which do not find a new theology necessary to their success, such as the German Socialist Village of Economy, Pennsylvania, the Seventh Day German Baptist Community at Ephrata, Pennsylvania; the more recently organized one, near Brocton in Western New York, which from the past history of Rev. T. L. Harris, one of its founders, we suppose to be Spiritualistic, and one in Iowa, which admits only male members.

II. Another and more numerous sect of PERFECTIONISTS, though, perhaps, we should hardly call them a sect since they have very generally retained their connection with the denominations to which they had previously belonged, are those persons, who in connection with Methodist, Congregationalist, Baptist, and Adventist Churches, hold to the doctrine that it is not only possible to attain, but that they have actually attained to a condition of sinless perfection, complete freedom not only from sinful acts

and deeds but from all sinful thoughts or words and from any promptings to sin. This doctrine, sometimes called the doctrine of Perfect Holiness, sometimes Oberlinism, since it was strongly advocated at Oberlin, Ohio, has a considerable following; and under the names of "The Higher Christian Life," or "Complete Sanctification," has been largely preached and written about within a few years past. We cannot say that in our experience, those who professed it have generally given evidence of greater purity or real holiness than others who made no such exalted profession; but while conformity to the Divine model is a thing to be sought after and labored for, we do not believe it is often attained in this life.

With our notice of these believers in Perfection we close our sketch of Religious Denominations in America. We may have omitted some small sects, but if so, it has not been for want of careful search for them. We have not deemed it necessary to say anything of Mohammedans, Buddhists, or

Sintauists, though we believe there are two or three congregations of each in California, and perhaps one or two in New York. The Russo-Greek Church has a chapel in New York City, one in San Francisco, and one or two in Alaska, but its adherents are probably less than 500 in all. The religious rites and ceremonies of the Indian tribes of the West, vary too much to be described within our limits. The Pueblo Indians of New Mexico, and the small remains of the Toltec tribes still found in New Mexico and Arizona, yet maintain some forms of that Sun and Fire Worship which so clearly fixes their origin in the plains of Mesopotamia. In some sections of the South, the Negroes, and especially those who were natives of Western Africa, still maintain in secret the Fetich or O-be-ah Worship. In considering the nearly one hundred and fifty denominations here enumerated with their widely varying creeds, we find it as true now as in olden times, that "God made man upright, but he sought out many inventions."

CHURCH ARCHITECTURE, PAST AND PRESENT, IN THE UNITED STATES.

IN connection with the preceding history of religious denominations in the United States, it seems appropriate that we should touch briefly on the edifices devoted to religious worship. During the Colonial period, and indeed till about 1820, the church edifices making any pretension to architectural beauty, were very few. One or two in Boston, two or three in New York, perhaps two in Philadelphia, one or two beside the Roman Catholic cathedral in Baltimore, one in Charleston, and one in Providence were so far beyond the ordinary churches in style and ornamentation that they were regarded as marvels. In the country, especially in the newer settlements, the church edifice, like the rude dwellings, was of logs, and the seats of hewed slabs, thrust between the logs at one end and sustained at the other by a block or some rough wooden legs. The pulpit was a section of the butt of a tree dug out and sometimes had a hewn slab pinned on it with wooden pins. The floor was oftenest of hard beaten

earth, but sometimes of split planks; the roof of bark or thatch and in rare cases of half-hewn logs with clay cement for the chinks. Glass in the windows was a rarity; oftener they were mere wooden shutters, admitting the light when thrown open but admitting, in their season, the wintry breezes also. There were no means of warming the house of God even when it was of better architecture than this, for two reasons: one that at this period stoves and furnaces were not in existence on this side of the Atlantic; the other that it was incompatible with the ideas of the fathers, that people should be allowed to take comfort in the house of God, except in the preaching of the Word. Was not the promise made on this very condition "If thou refrain thy foot from the Sabbath, from doing thine own pleasure on my holy day," &c., and did not that evidently mean that people should not go to a good comfortable church, nicely warmed and ventilated lest it should be a doing of their own pleasure?

They might get asleep if they were so comfortable. In the older settlements, the log cabin churches and school houses had given place to huge barn-like structures, lofty and bare and cold, with great square pews as large as the bed chambers of a modern dwelling, with high partitions, where each family sat by itself like the witnesses in a court, the jury in the jury-box, or, in many cases, like the criminal in his pen, when the judge is about to pronounce sentence on him. The mother or grandmother, in respect for their age and dignity, were allowed to bring their footstoves, little square boxes of perforated tin, having a little iron dish of live coals within them, and with these, while inhaling the charcoal fumes, they were fain to keep their feet from freezing in the winter; but the father, and the sons, and the little children were allowed no such foolish indulgence. After tramping through the snow perhaps for miles, they took their seats in their pews with the temperature anywhere from 32° to zero, and listened as well as they could, while the preacher read his discourse, going on often to seventeenthly or eighteenthly, while the children either played with the house dog, who was a regular attendant upon the church and had his place in the pew, or amused themselves with some of the few objects in which they could find occupation for their mental and physical activity. The number of panes of glass in the great windows were counted over and over again; the calculation was made with an elaboration of the doctrine of chances, worthy of a Babbage or De Morgan, how many weeks, months, or years would elapse before the huge sounding board over the pulpit would fall, and whether it would come down on the minister's head like an extinguisher on a candle, and whether the little tub perched on a post in which he preached would be crushed in the downfall. Occasionally a child of uncommonly quick perception would find some gratification, as the minister announced his "fifteenthly" and "sixteenthly" in computing how much time he would be likely to consume in the heads yet to come; but such an idea as a child's being able to understand what the minister was preaching about, never entered the heads of parent or minister. How should it? The sermons were mostly doctrinal, masterly expositions and logical arguments on the great points of the Calvinistic theology, but it required the matured minds of

the sturdy thinkers of those days to comprehend their force and pertinence. The sermons of that time were long; not merely an hour, but often two and three hours in duration. We read of one of the worthies of that time, a shining light in the Massachusetts ministry, that "he was a most godly and *painful* preacher" (don't laugh, reader, painful in those days meant painstaking); and that on one occasion he preached to his people a good three hours, in the morning of a very wintry day; and after they had taken food, he belabored them for their sins and shortcomings, in the afternoon, by the space of four hours more." In the cities, the churches were mostly frame buildings, though a few brick and stone were put up. One or two of the Dutch churches in New York were built of small red and black brick imported from Amsterdam, but very few had any architectural beauty. The Old Brick Church in New York, (Rev. Dr. Spring's) on Park Row, was in its day considered one of the finest churches in the city; if standing now it would hardly be considered a respectable stable (the use to which abandoned churches are generally put in that city). Indeed as late as 1830, forty-two years ago, there were not in the whole country twenty churches which could be considered specimens of graceful architecture. The great fire of 1835, which destroyed the second church edifice which the corporation of Trinity church had erected, as well as several other churches in that part of the city, was incidentally the impulse to great improvements in church architecture. The present Trinity church, "a poem in stone," was erected on the ruins of its predecessor, and Grace church soon after. From that time New York began to be noted for the beauty of its church edifices, many of them erected at enormous cost. Other cities followed the example; some, indeed, had already commenced the erection of beautiful churches. The Gothic styles, Early, Norman, Spanish, Mediæval, and English, were the favorites for many years, and even now have their advocates. Of late years, however, there has been a greater independence of the forms of Ancient and Mediæval art on the part of our architects, and while the styles of the Renaissance, and the ancient classical, are found more frequently than formerly, there is a desire which now and then finds expression in stone, iron, or bricks and mortar, to origin-

ate designs more appropriate to our own time, our climate and the new materials for building which we have. Sometimes this leads to very singular structures, experiments, it would seem upon public taste and endurance. Under the name of Italian Renaissance we have particolored buildings of red and cream-colored stone, or black and white marbles, with a profusion of spires, turrets, and finials, and crowned with a massive dome; in one of the so-called American styles we have broad, squat iron buildings, low, but crowned in the center with a high, towering dome, reminding one of a huge foundry. Another American style studiously plain, and undoubtedly capacious and comfortable for accommodating an audience, seems intended for two towers, whereof one is cut short at the height of the ridge-pole of the church, and the other forgetting its original intent presently shoots up into a lofty spire (usually of wood, but covered with slate) so slender and fragile, that it seems most like a monster darning-needle, set up on end. But these partial failures only serve as waymarks to a more perfect architecture which shall in the end attract the attention of the world by its grace and adaptation to the purposes for which it is intended. City churches are not as yet all models of beauty, but they are improving in these respects very rapidly. In their interior arrangement there has been a great advance. The old-fashioned pew has been banished and the modern slip or cushioned seat, low, easy, readily accessible and attractive has taken its place. The pulpit

is not now a perch or eyrie from which the preacher can get a bird's eye view of his congregation, but a simple reader's desk on a raised platform. Pillars are either entirely dispensed with or are so small as not to interfere with the view of the pulpit. Warming and ventilation have been the subject of anxious and protracted thought, and though we can hardly say as yet that either is perfect, yet we are so rapidly approximating to perfection in these particulars, that the present generation will probably be able to realize it. The Sunday School and Bible Classes have come to be such important agencies in religious progress, that special accommodations are required and provided for them, usually in a separate building, but attached to the church. And so strong are the demands for social life in connection with the church, that most of the newer church edifices have their parlors, retiring rooms, ante-rooms, committee rooms, and many of them pastor's studies and church libraries in connection with the church edifices.

The churches in the country come up slowly to these improvements, and those of the Southern and Western States more slowly than those of the Eastern or Middle States; but the progress in all is encouraging. Still great as has been the advance of the last forty years, we are, as a nation, far behind most foreign nations in the number, the splendor, or the costliness of our temples for religious worship.

DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE
OCT 20 1959
LIBRARY

NATIONAL LIBRARY OF EDUCATION



3 6533 00286191